AIR FORCE

THE OFFI RNAL OF THE U. S. ARMY AIR FORCES ☆ NOVEMBER 1945

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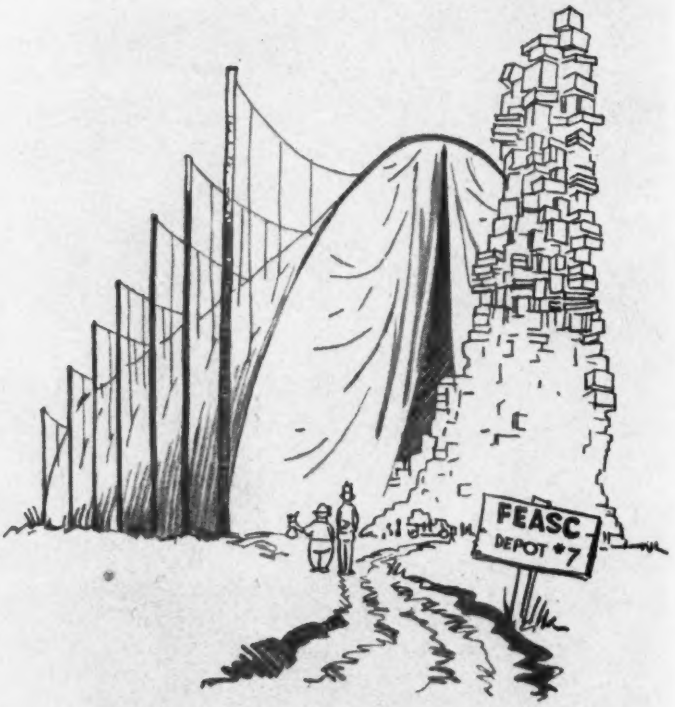
INSIDE JAPAN: Spaatz, Kenney and kibitzer

"Butterfingers!"

Manila Mieries

BY CAPT. WM. T. LENT
AIR FORCE Staff

"What would you charge to make this into a snappy bell boy's uniform?"



"But Elwood, I'm sure you drop accountability on those six unused set screws."

"Maybe this will teach you to barter with these natives."

"You should have been here when it was really rough —no refrigerators!"

Rendezvous

Boost for PIs

Dear Editor:

Much has been written concerning the photo recce flyers and units, but little about those who complete the job begun by the photo recce outfits. The taking of the photograph is merely the first step in a long and tedious job, a job the importance of which is often underrated or ignored altogether. Credit should be given those officers and men who by their skill and hard work make the photos divulge intelligence. This is not to demean these courageous pilots and crews who take the pictures, but rather a meager attempt to gain some recognition for those taking up from where the actual photo mission stops.

Photographic interpretation requires long hours of intense study, close scrutiny for detail, comparison with photos taken previously, and finally results in intelligence from which decisions on targets are reached. In the Asiatic theater especially PI is the mainstay of the A-2.

PI located and evaluated the installations in use by the enemy, it found the supply dumps, factories, repair centers and troop concentrations. It determined the construction of targets so that bombing missions could be set up using the type of bombs and attack best suited without the waste of trial and error methods of attack. It determined the terrain and the best approach to the target to avoid the most flak and prevent detection by the enemy radar. It located and typed the enemy aircraft, and in several cases was the first agency to discover new types of models of aircraft, ships, or defense installations. It determined the damage accomplished on a target so that the necessity for additional strikes could be determined.

I could go on and on in the same vein, but that isn't my job. I am merely a PI assigned to a Wing. Having seen only one article about PI, and that about its role with the ground forces, I felt the urge to request that due recognition be given the photographic interpretation detachments and their personnel.

Capt. Joseph T. Carey
312th Fighter Wing
Chengtu, China

Stamps for Wounded

Dear Editor:

When we organized STAMPS FOR THE WOUNDED just a year ago, we thought that if we could help servicemen in about 25 hospitals, we would have been quite successful in our venture. The idea of using stamp collecting as a form of recreational therapy under the guidance of the Red Cross, however, was so well received and did so much to cheer the men that we are now working in 74 Army and Navy hospitals.

We have sufficient volunteers, but unless we get many thousands of more stamps, I'm afraid we will not be able to carry on. During the first year so many executives of

(Continued on Page 2)

Vol. 28 No. 11 November 1945

AIR FORCE

THE OFFICIAL SERVICE JOURNAL OF THE U. S. ARMY AIR FORCES

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business firms thought so well of our project that they caused notices to be distributed to their employees and this produced supplies enabling us to distribute 4,000,000 stamps. Entering our second year we estimate this number must be doubled if some men are not to be disappointed, so may I ask that you cooperate with us by running a plea in your magazine?

Ernest A. Kehr
Stamps for the Wounded
230 W. 41st Street
New York 18, N. Y.

Tomatoes and Morning Glories

Dear Editor:

Have read with interest your article entitled "Vegetables on the Half Shell," (September, 1945, Cross Country) but disagree with the statement that "AAF personnel could not raise so much as a dandelion on Ascension Island." As early as March, 1943, AACS personnel stationed on Ascension had excellent results in the growing of tomatoes and morning glories, the only two types of seeds then available. Seeds were either germinated in agate wash basins or British helmets, transplanted to areas around tents and watered from the meager supply of rationed water (after it had been used for washing purposes). The greatest drawback at that time, as I recall, was the multitude of rats which constantly gnawed at the small seedlings.

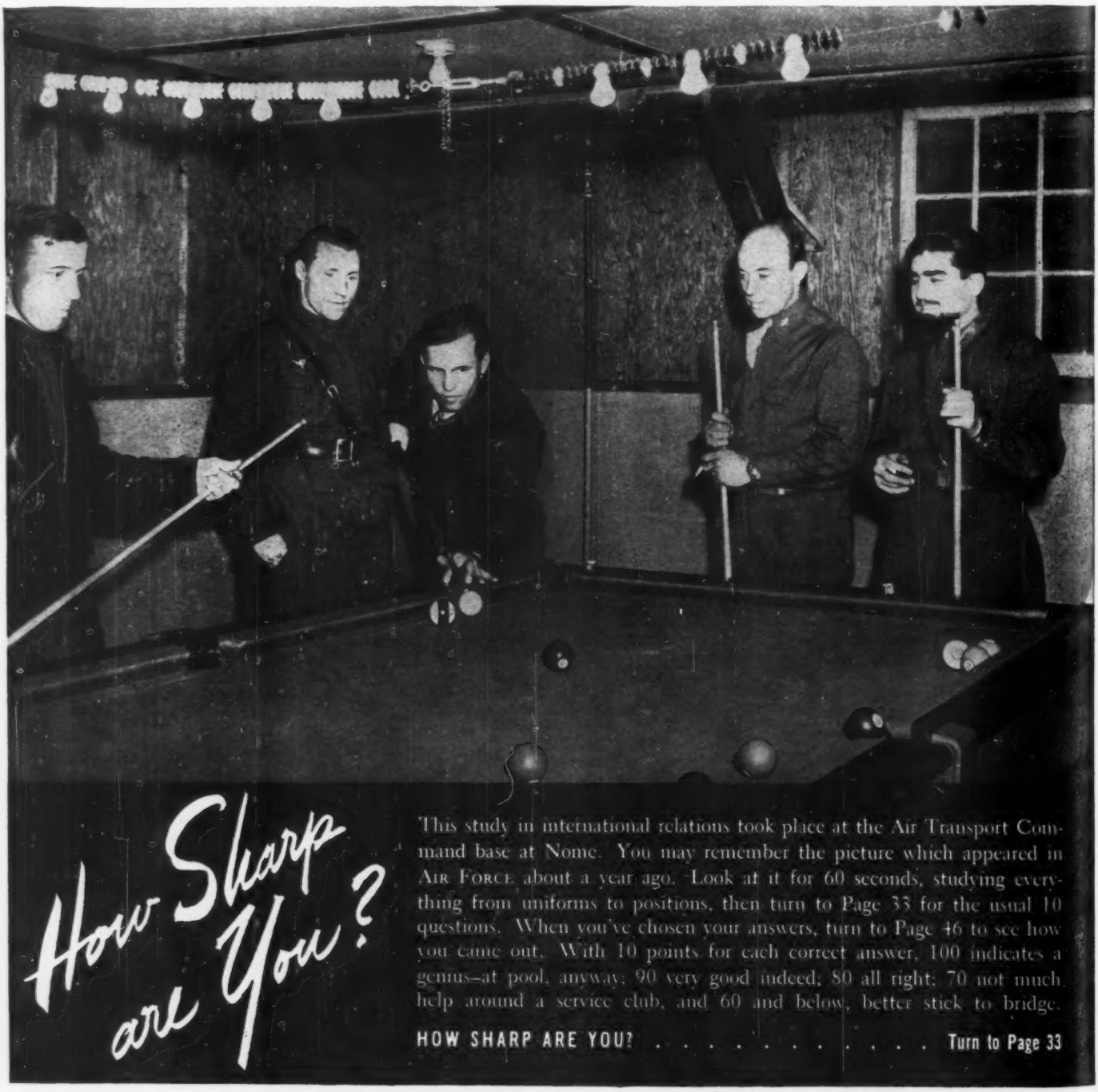
Capt. Clarence J. Christman
LaGuardia Field, N. Y.

Make It the 93*rd*!

Dear Editor:

Banzai! Someone has definitely SNAFUed here. Although your magazine is unusually accurate with respect to all technical material, and mistakes therein are few and far between, this one I know to be an almost inexcusable error. Some things we can take with a grin, usually a sickly one, but this? Never!

It all came up in your September issue. In the article, "Three Years Over Europe," on Page 43 Major Gordon says, "In December (1942) it (the 97th Bombardment Group) had been joined by three squadrons of *Liberators* from the 92*nd Group* in England." Now names I can be called without any trouble, people can push me around at



How Sharp are You?

This study in international relations took place at the Air Transport Command base at Nome. You may remember the picture which appeared in AIR FORCE about a year ago. Look at it for 60 seconds, studying everything from uniforms to positions, then turn to Page 33 for the usual 10 questions. When you've chosen your answers, turn to Page 46 to see how you came out. With 10 points for each correct answer, 100 indicates a genius—at pool, anyway; 90 very good indeed; 80 all right; 70 not much help around a service club, and 60 and below, better stick to bridge.

HOW SHARP ARE YOU? . . . . . Turn to Page 33

times and not get slugged, but, partner, when an article appears saying that the 92nd had those flying boxcars for combat planes, them's fighting words. YB-40s we did have for a while in the 327th Squadron, but not those pregnant cows. I joined the outfit in the summer of 1942 as a ground crewman and went over with them from Dix that August. After I got on combat I flew with Lts. Bogart, Larson and McGrew until we were shot down on that Stuttgart raid in September, 1943, which takes in the time-period that Major Gordon had in mind. I can assure you that no Libs were in our group up to that time.

Now, do we get an apology or do the Harrisons and the Straubels start a feud?

S/Sgt. T. D. Harrison
138th AAFBU, Sq. F, LCAAF
Lake Charles, La.

Dear Editor:

Hats off to you and Maj. Arthur Gordon, but . . . it was not the 92nd; it was the 328th, 330th and 409th Squadrons of 93rd Group, commanded then by Col. E. J. Timberlake.

S/Sgt. R. E. Howell
267th AAFBU, Sq. A, Box 5328
Ft. Sumner, N. M.

Dear Editor:

. . . I was with the 93rd Bomb Group, 328th Squadron, at that time and I know that the group sent to Africa in December with three squadrons and operated from both Oran and the desert side was the 93rd Bomb Group and not the 92nd as your magazine states. As a member of the 93rd, I'd like to see the credit for hard work and a good job go to the boys who did it, not to a group that wasn't even in Africa.

Lt. Luther C. Cox
AAF P.D.C.
1045th BU Sq. H
San Antonio, Texas

We'll take the rap, men. No feuds, please. We're outnumbered.—Ed.

Berth Control

Dear Editor:

Being an ardent devotee of my colonel's issues of AIR FORCE, I read them thoroughly. In the October issue on Page 25 in the article "Flying Hotel," I was particularly surprised and amused at the amazing services and accommodations the commercial design of the C-99 provides, namely: "9 staterooms and 12 *births*." What? That number every trip? The stork is a busy bird.

Capt. D. N. Dalton, WAC
1709 Washington Ave.
St. Louis 3, Mo.

Why, there's nothing to it. The stork has a permanent berth aboard this remarkable airplane. And, incidentally, our proofreader has one of the same in our populous doghouse.—Ed.

Ventilator

Dear Editor:

As a B-29 flight engineer I have found the airplane uncomfortable flying at low altitude (500 to 4,000 feet) in hot weather because the cabin air flow system does not

(Continued on Page 46)

In This Issue

Whatever General George C. Kenney is telling General Carl Spaatz in this month's front cover photo, it isn't brightening the sad expression on the face of the Japanese bystander. This informal conversation between our two top air commanders in the Pacific is taking place in front of a lobby elevator of the New Grand Hotel in Yokohama, General MacArthur's temporary headquarters shortly after our landings at Atsugi Airdrome on the city's outskirts. This picture, together with most of the photographs in "The AAF Inside Japan" (beginning on Page 4), was snapped by Lt. Benny Reyes of the 5th Combat Camera Unit, who landed on Atsugi in one of the advance C-47s two days before our formal occupation of the Tokyo area began.

With Lieutenant Reyes' photos, which he brought back to the States aboard the first B-32 to return following the initial occupation, is a word picture of "The AAF Inside Japan" supplied by Maj. Robert V. Guelich and Lt. Harvey F. Yorke, AIR FORCE overseas staff correspondents on the scene. Major Guelich, who will be remembered by AIR FORCE readers for his coverage of technical developments at Wright Field and a productive stint in the CBI theater two years ago, recently returned to our New York office with a batch of interesting information which will be put to worthwhile use in our special issue on the war in the Far East to be published in December. Lieutenant Yorke remained in Japan where he was joined by Maj. Ben. J. Grant, chief of our Far East Branch, and, later, by Capt. William T. Lent, who were to complete coordination details for our special Pacific issue before returning to New York. Meanwhile, Capt. John C. Jay has arrived in Manila to join our Far East staff.

☆

On the other side of the world, Capt. A. E. Hotchner has delved into the organization of the education and recreation program for our occupation personnel in Europe. His impressions of this ambitious undertaking are included in the article, "Battling the Occupation Blues," on Page 20. Captain Hotchner writes that he has just visited the British Isles where he found most of the former bustling bases of the 8th Air Force to be little more than ghost towns. "Only 30,000 of our boys remain," he says, "and most of them have their trunks packed." Captain Hotchner comments, however, that the wholesale exodus has been a boon to the thirsty. "The Royal George, Fox & Hounds and other favorite haunts now have more than enough mild and bitters on hand for all comers," he writes rather gleefully.

When we published a chronology of AAF units which had received Distinguished Unit Citations in our March, 1945, issue, many readers commented on the comparative scarcity of citations for our air units in the Pacific. The same was true of citations covered in subsequent issues of AIR FORCE as they became official. This chronology included citations officially recorded at AAF Headquarters up to January 1, 1945, except those which could not be revealed for security reasons. Some of the latter had to do with distinguished action by our Pacific airmen, and dozens of other Pacific units subsequently were cited by General Kenney, commanding general of the Far East Air Forces, as the war against Japan drew to a close. To bring our coverage up to date, AIR FORCE this month is publishing a summary of these citations according to the dates of action. "Battle Honors in the Pacific" (Page 34), is little short of a thumbnail history of the air war in the Southwest Pacific from the days of Port Moresby to the front door of Japan.

☆

Capt. Leslie Caplan, the "Death March Medic" (see Page 12), is now hospitalized as a result of malnutrition and exposure to disease while a prisoner of war in Germany. Captain Caplan is attempting to collect data on casualties resulting from the march through Germany, which he describes so graphically in his article, and he requests that any men of Section C, Luft IV, who have any information on casualties, to communicate with him at Ward 4, Fitzsimons General Hospital, Denver 8, Colo.

☆

As a sidelight on THAT current topic of conversation, one of the officers whose job it is to see that men returning from combat theaters are getting all the points coming to them has written us an article on his experiences in getting the other fellow back in civvies. He is Lt. Edmond D. Boles of the AAF Reception Center at Camp Beale, Calif., whose contribution, "Seeking Stars," appears on Page 48. ☆

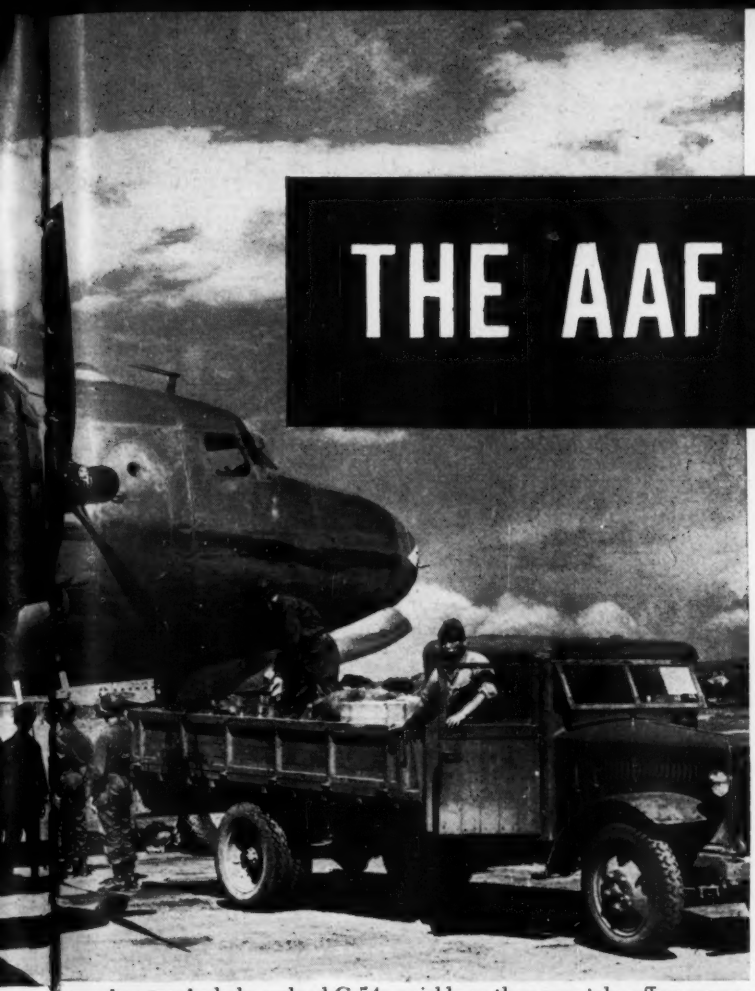
VICTORY EDITION

The Army Air Forces' role in beating back the Jap and leading the way to final victory in the Far East will be described in the December issue of AIR FORCE. This coverage will include on-the-scene observations of AIR FORCE staff correspondents in Japan, the Marianas, Okinawa, the Philippines, China and India.

Ready to transport occupation forces to Japan, C-54s jam hardstands at Okinawa as part of largest armada of its kind.

THE AAF INSIDE JAPAN

By Air Force *Overseas Staff Correspondents*



Jap trucks help unload C-54s quickly so they can take off as soon as possible, making room for others in Atsugi's limited parking area.

Representing General MacArthur in first day's talks, Col. C. T. Tench confers at Atsugi with Gen. Arisuye, Imperial General Staff.

The typhoons had vanished over the China Sea and in the morning light the long runway of Atsugi airdrome was a deserted highway leading to the heart of a conquered empire. Near the hangars and buildings and along the perimeter, Jap soldiers stood docile and expressionless as the wheels of an American C-47 slammed onto the hard-surfaced strip. Thirty-six other aircraft marked with the white star of the AAF curved into the traffic pattern, carrying some 150 technicians of the 5th Air Force. Above this fleet of transports, American fighters criss-crossed protectively, alert for any signs of treachery.

It was August 28—0828 hours, to be exact—and Z-Day was still two days in the future. That was when the 11th Airborne Division was scheduled to begin its bloodless invasion of Japan. But with clearing weather, it was decided to send an advance aerial party to Honshu to prepare for the large-scale occupation to come.

Thus the seizure of the Japanese mainland really started when the C-47 rolled to a stop at Atsugi. As crew and passengers emerged, the Japs at the field were witnessing the first occupation of Japan by an enemy force in more than a thousand years.

The pilot was Col. John H. Lackey, commander of the 317th Troop Carrier Group. If he had any doubts about the welcome that awaited his party, they were soon dispelled by the Jap officials on the Atsugi "reception" committee.

The Americans arrived in the role of conquerors, and their vanquished hosts met them with obsequious grace. Dining tables, with spotless table cloths and vases of flowers, had been set up in the mess, and Lackey and his men were given a dinner of fish and beer, cucumbers, tangerines and sliced pineapples.

Assured that the Japs at Atsugi were ready to cooperate fully in setting the machinery of surrender into motion, most of the American transports returned to Okinawa that afternoon. The men remaining behind immediately went to work to prepare Atsugi, 22 miles from the capital and largest airfield in the Tokyo network, for the Z-day landings.

Main task of this advance party—well protected by Japanese naval and civilian guards—was to install a communications system that could handle the forthcoming aerial invasion. Personnel of the 68th Army Airways Communications Group had designated this job as "Crash Project Number One," and most of their equipment was flown in and unloaded within an hour after Colonel Lackey's C-47 landed. (See "Contact on the Double," Page 28.)

In that first hour, the men had an emergency homing beacon in operation, and early the next morning they finished installing permanent tower equipment. By sundown

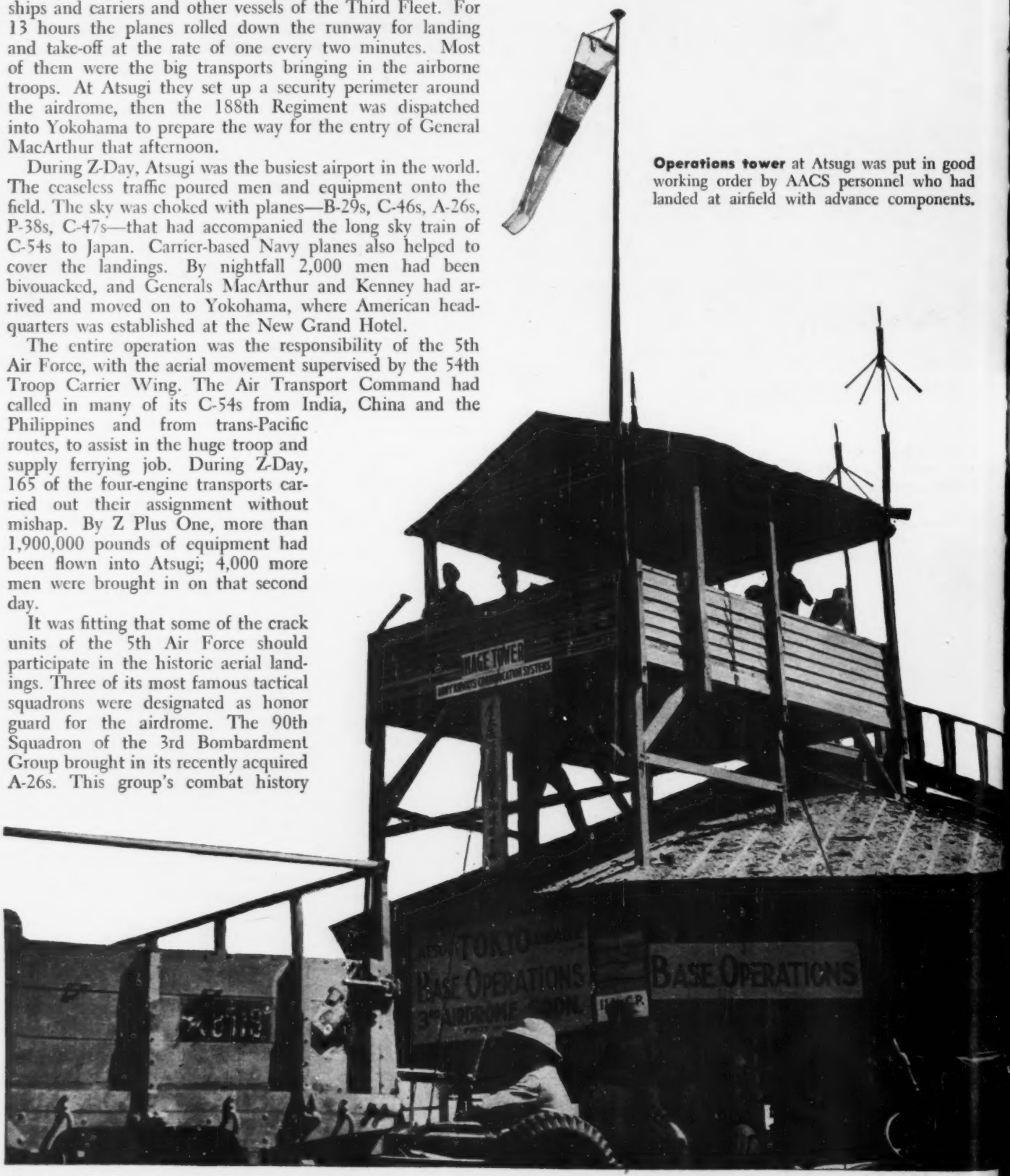
of the 29th everything was in readiness to receive the occupation air fleet.

At 0600 on Z-Day the first C-54, carrying troops of the 11th Airborne, settled on Atsugi's single, 5,200-foot runway. All day the planes flew across Tokyo Bay, above the battleships and carriers and other vessels of the Third Fleet. For 13 hours the planes rolled down the runway for landing and take-off at the rate of one every two minutes. Most of them were the big transports bringing in the airborne troops. At Atsugi they set up a security perimeter around the airdrome, then the 188th Regiment was dispatched into Yokohama to prepare the way for the entry of General MacArthur that afternoon.

During Z-Day, Atsugi was the busiest airport in the world. The ceaseless traffic poured men and equipment onto the field. The sky was choked with planes—B-29s, C-46s, A-26s, P-38s, C-47s—that had accompanied the long sky train of C-54s to Japan. Carrier-based Navy planes also helped to cover the landings. By nightfall 2,000 men had been bivouacked, and Generals MacArthur and Kenney had arrived and moved on to Yokohama, where American headquarters was established at the New Grand Hotel.

The entire operation was the responsibility of the 5th Air Force, with the aerial movement supervised by the 54th Troop Carrier Wing. The Air Transport Command had called in many of its C-54s from India, China and the Philippines and from trans-Pacific routes, to assist in the huge troop and supply ferrying job. During Z-Day, 165 of the four-engine transports carried out their assignment without mishap. By Z Plus One, more than 1,900,000 pounds of equipment had been flown into Atsugi; 4,000 more men were brought in on that second day.

It was fitting that some of the crack units of the 5th Air Force should participate in the historic aerial landings. Three of its most famous tactical squadrons were designated as honor guard for the airdrome. The 90th Squadron of the 3rd Bombardment Group brought in its recently acquired A-26s. This group's combat history



Operations tower at Atsugi was put in good working order by AACS personnel who had landed at airfield with advance components.

Jap laborers move one of their planes, partially dismantled on General MacArthur's orders, to clear shore for occupation supplies.

These American POWs, captured on Corregidor and imprisoned near Kobe, walked and hitch-hiked the 550 miles to Atsugi in 22 hours.

Parking apron of Atsugi was crowded with C-54s on first occupation day. Jap ambulances at left, ready for emergencies, were not needed.

dates back to January, 1942, when it arrived in Australia, later evolving the tactics of low-level attack, first in A-24s and B-25s, then in A-20s. The squadron was led onto the field by a former commanding officer of the "Grim Reapers" group, Col. Richard H. Ellis, who had flown 203 low-level missions against the enemy.

The heavies were represented in the Atsugi landings by B-24s of the 43rd Group's 63rd Squadron. This group had compiled an imposing record of nearly 1,000,000 tons of enemy shipping sunk. It was this squadron that flew the only B-17s in the Pacific after the 19th Bombardment Group had been disbanded. The man who led the B-24s into Atsugi was Col. Edward W. Scott, Jr., who had brought the first "Snoopers" to the Pacific and had developed the successful tactics of radar night bombing and long-range search and armed reconnaissance.

U. S. flag goes up on a hangar at Atsugi as our troops arrive.

Fighters moving in on the airdrome were P-38s of the 49th Group's 9th Squadron, led by Col. Gerald Johnson, leading AAF fighter pilot in the Pacific at the close of the war, with 26 enemy planes to his credit. This squadron is the one with which Maj. Richard I. Bong ran up a score of 40 enemy planes; at one time it also had Maj. Thomas B. McGuire, who was right behind Bong with 38 kills. The 9th Squadron first campaigned with P-40s in the defense of Darwin. Later, using Lightnings, it fought over Port Moresby and was the first air force unit in Hollandia, Biak and Leyte. From there it moved on through Mindoro, Luzon and Okinawa.

With them were many of the AAF's unsung veterans of the Pacific war. Besides the AACS group, they included air freight forwarding teams of the 21st Air Service Group and the 63rd Air Service Group, outfits that had been among the first to set up large-scale supply bases in the Pacific. These planes and men formed the spearhead of our occupation force. From Atsugi, the men who went on to Yokohama rolled over dirt roads in convoys of Japanese trucks, through miles of rubble and wreckage.

While surrender papers were being signed aboard the USS Missouri on September 2, 400 B-29s flew overhead; thus the final surrender was figuratively punctuated by the big planes that had dealt the knockout blows of the war.

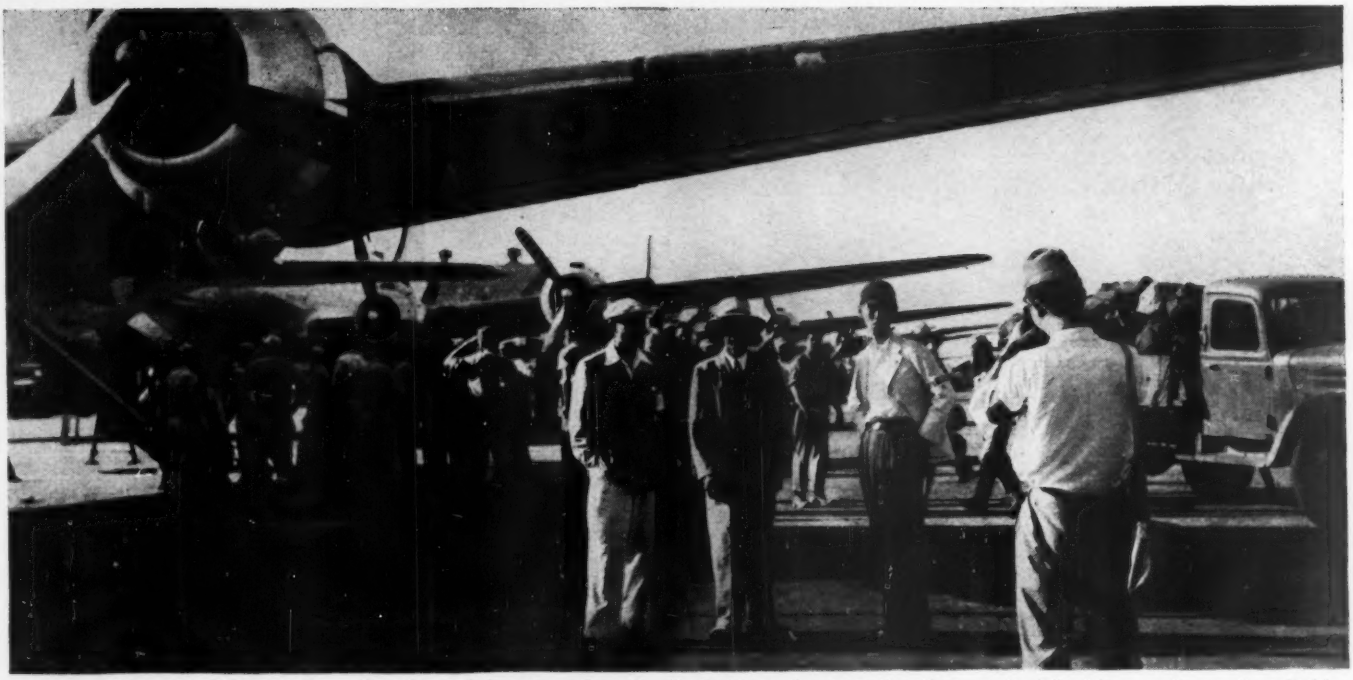
The AAF's role in first phases of occupation was not finished, however, for when the southernmost mainland island of Kyushu was taken over, aerial units were first to land. Technicians and engineers were flown in from Atsugi on September 3, the day before the U. S. 6th Army went ashore. These technicians and engineers prepared for the arrival on the following day of airborne troops. Later, the 22nd Bomb Group (M) and the 8th Fighter Group were selected as the air occupation units for the island of Kyushu, which was to have been one of our key invasion points in the Japanese home islands.

The 5th Air Force, which had been designated as the occupation air force for Japan, assumed further duties on September 8 when the occupation of the American zone in Korea got underway. Tabbed for the Korea assignment were 308th Bomb Wing headquarters, the 42nd Bomb Group (M), the 475th Fighter Group and a part of the 317th Troop Carrier Group. A 13th Air Force unit, the 42nd, was being transferred to the 5th Air Force.

Back on the main island of Honshu, the Tokyo area was scheduled to include the 310th Bomb Wing headquarters, the 3rd Bomb Group (L), the 35th and 49th Fighter Groups, the 375th Troop Carrier Group, the 8th Photo Squadron and the 82nd Tactical Reconnaissance Squadron; the 38th Bomb Group (M) and the 475th Fighter Group were to move in farther south near Osaka, and the 309th Bomb Wing was to take over the air job in the northern section of the island.

These units were forming the nucleus of the AAF's occupation force which, according to a recent estimate by Lt. Gen. Barney M. Giles, commanding general of the U. S. Strategic Air Forces in the Pacific, will number from 30,000 to 40,000 men and 800 planes. ☆

This Yokohama landscape is typical of the scenery that greeted our occupation troops as they moved through Japanese cities to their permanent bases. B-29s, which the Japs called "the Birds of Hell," had literally blazed a trail through mile after mile of buildings.



Japs are incurable shutterbugs, and military defeat gave these local officials a chance to be photographed beside one of our giant C-54s.

A Japanese citizen drinks water from a broken pipe in the charred business section of Tokyo devastated by Superfort attacks.

Life returns to a battered and razed section of Yokohama as war ends. Laborers unload rice sacks at a government warehouse.

General headquarters of the occupying forces, New Grand Hotel at Yokohama, is ringed by arms of the 11th Airborne Division.

General MacArthur pauses with Generals Spaatz and Kenney at edge of Atsugi airstrip shortly after his arrival there on August 30.

After their last cargo of destruction had fallen on Japan, our Marianas-based B-29s loaded up for new targets—food, medicines and clothing for Allied POW camps

These words on the B-29s were cheered by our men in POW camps.

Superfort

When the Japanese bowed and handed over their Samurai swords on August 15, the problem of how to get foodstuffs, clothing and medicine quickly to thousands of Allied prisoners of war in Japanese prison camps was paramount in the minds of Allied commanders. This was a job that had to be accomplished immediately. It was more than just another phase of the occupation, it was a mercy mission—the greatest in history.

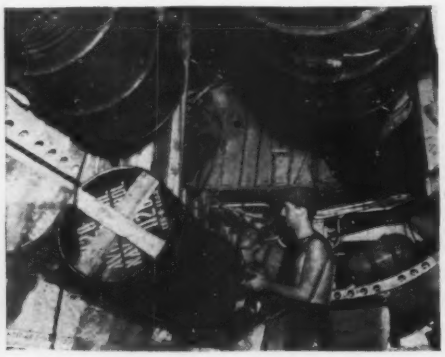
Two-thirds of the POW camps were in the Japanese homeland. B-29s for months had been flying hundreds of miles across the Pacific to bomb targets sometimes uncomfortably close to POW camps. It was logical then that Lt. Gen. Nathan Twining's 20th Air Force should be given the task of getting supplies to prisoners of war. The B-29s could get there "fustest with the mostest."

Operations sections in all five Marianas-based B-29 wings went into action, and five days before peace was signed on the battleship Missouri in Tokyo Bay, B-29s had begun spread-eagling China, Manchuria, Formosa, Korea and the four main Japanese home islands with medicine, foodstuffs and clothing for Allied prisoners of war.

Some of the B-29 crewmen had never been on a mission over enemy territory before, and POW camps were not exactly the size of Tokyo. Army and Navy intelligence had chartered the positions of most such camps but there still were many which we had been unable to locate. Low-flying Superforts briefed on missions to known compounds found others and split their supplies between the camps accordingly. One camp of 12 starving nuns was discovered near Beppu, Kyushu, by a Chicago newspaperman.

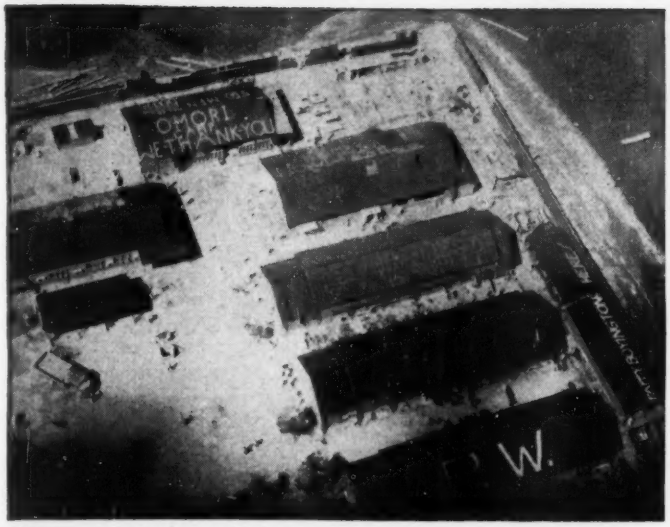
In addition to these mercy missions, the 20th Air Force played a vital role in the occupation preparations of the Jap homeland. More than 200 weather reconnaissance flights in the Marianas and over the empire were flown. Two hundred and fifty-four "air-lift" sorties carrying freight from the Philippines, the Marianas and other Pacific islands to advance bases were made. Seventeen photo-reconnaissance missions to Japan were flown to complete damage assessment of targets for which there had been no post-strike coverage. Low-altitude pictures of port and dock facilities in northern Honshu and in southern Hokkaido were made for the Navy so that occupation forces could move in with

Cargoes of food, clothing and medicines were checked carefully before loading began.



Many of the supplies were packed in oil drums and hoisted into the bomb bays.

'Mercy' Superforts parachuted 7,000,000 pounds of supplies to Allied prisoners.



Signs on rooftops in the POW camps left no doubt of their identity for our B-29 airmen, or the gratitude of the starving prisoners.

Samaritans

BY CAPT. GORDON O. CULVER
20th Air Force

minimum difficulty. Low-altitude movies were taken of Japan's burned out cities and, though they were flown prior to the actual signing of the surrender, no opposition was encountered on these missions. The 3rd and 41st photo-recon squadrons of the 20th Air Force later were engaged in making complete photo coverage of the Marianas for the purpose of preparing accurate maps of that area.

The five B-29 wings—the 58th on Saipan, 73rd and 313th on Tinian and the 314th and 315th on Guam—participated in the POW missions dropping 11,000,000 pounds of supplies on more than 150 POW camps. In all, 1,000 sorties were flown in the Superforts with specially constructed cargo platforms in the bomb bays.

The mercy missions were planned as first aid for the starving and disease-ridden prisoners to tide them over until American liberation forces could free them. Some camps were visited two and three times. The first drop on each camp contained sufficient supplies for three days. If a camp was not liberated at the end of that time a second drop with enough food for seven days was made. If a third drop was necessary, food for 10 days was parachuted down. After Allied prisoners of war at Ofuna, described as the hell hole of Japanese prison camps, had received enough supplies to take care of their needs they begged B-29 crews not to drop any more. They didn't want the Japs to get what would be left behind when they were liberated.

A B-29 carried sufficient food for 200 prisoners. Eighteen bundles were loaded in each bomb bay and the drops were made from less than 1,000 feet. Targets were designated by furrows, paint or cloth panels on the ground. Two-thirds of the supplies were dropped on camps in the Japanese home islands.

The plotting of POW camps so that crews could be briefed properly and the corralling, packing and loading of supplies was a tremendous undertaking. The hub of this activity was centered at Isley Field on Saipan with the 73rd wing. Superforts from all the wings brought in supplies from sub depots at Guam and Saipan to augment those at the depot on Saipan where they were packed.

Many of the supplies were dropped in used fuel drums. Service crews, who called themselves the "Saipan Samaritans," welded two barrels together into what looked like "blockbusters." Three eight-hour shifts were maintained to make sure that a sufficient number of barrels was made available. In all, 1,800 drums were welded. Flight crews helped in loading the planes.

The Guam-based 315th wing flew so-called "air-lift" missions to the Philippines bringing back 24,000 cargo chutes. None were available in the Marianas. The same wing flew three of the longest POW missions to Mukden, Manchuria, a round trip of 4,000 miles.

For days prior to the first mercy mission's take-off from Saipan, armament, ordnance and parachute packers labored on preparations to insure success of the drop on the compound at Weihsien on the Chinese Peninsula at Shantung. A test drop made at Isley Field proved unsuccessful. Some of the chutes failed to open and supplies were too badly damaged for use. Repacking of the chutes began immediately.

The oil drums filled with supplies were anchored to the bomb racks by the same shackles that had once been used to secure bombs. As on bombing strikes nothing was left to chance. The bombardier, navigator and radar operator combined their efforts to determine the exact moment for "supplies away."

Some B-29 crewmen, fresh from Stateside, were participating in their first Pacific mission. Trained to deal out destruction, they found themselves on errands of mercy. From low level, these new crewmen observed the devastation of Japanese cities left by the Superforts when their missions over the empire had another purpose.

While anticipating no trouble even before peace was signed, the mercy planes carried ammunition for their guns —and as one crewman put it, "there wasn't a dud in a carload of the bombs we were carrying." The first POW supply drop was made on August 8, and less than a month later there remained only three compounds which might need another visit before liberation troops reached them. These three camps had food to last through September.

Four Superforts were lost on the mercy mission operations. Two aircraft disappeared and were never heard from, a third crashed into a mountain in Japan and a fourth was shot down over Korea by Soviet planes—a case of mistaken identification. In the latter case, no casualties resulted and the Russians apologized.

Some crewmen reported seeing Japanese civilians retrieving barrels of food and bundles of clothing which had dropped wide of the compounds and taking the supplies to the camps.

Now, since the POW and show-of-force missions have been completed, the B-29 program in the Marianas has entered a new phase. Training officers have set a minimum of 60 flying hours per month. This includes formation proficiency, transition time for copilots to give them pilot ratings, bringing instrument cards up to date and calibrating all navigational instruments.

All practice bombing missions ceased temporarily after the war ended. Islands in the Marianas which had been used for such missions were being searched by ground parties for Jap soldiers and natives who would be removed to permit resumption of the practice bombing.

The Superforts haven't had too many idle moments since they broke off unfriendly relations with the Japanese empire—70,000 Allied prisioners of war who received candy, soap, vitamin pills, medicine, clothing and food will attest to that. ☆

Death March Medic

BY CAPT. LESLIE CAPLAN

Flight Surgeon

ILLUSTRATED BY SGT. LOUIS S. GLANZMAN

"For you the war is over." The first German officer I ever saw told me that, only a few minutes after I had bailed out of a B-24. We had been on a mission over Vienna with our squadron, the 719th Sq., 449th Bomb Group. We had been hit hard by flak on the way in but managed to make it back to Yugoslavia where we had just bailed out.

But like many of his countrymen, this superman was wrong. For me, the toughest part of the war was just beginning. I was on the verge of a unique medical experience. Less than a half hour after the "war was over for me," I was applying a splint to my copilot's broken leg and my new job had begun.

The next day one of our gunners was brought into the jail where we were imprisoned. He had been bleeding from a nasty scalp wound ever since bailing out. I stopped the hemorrhage. My next patient was the bombardier who was carried in to the jail with a groin injury. Then a friendly guard sneaked me in to see one of our brave allies, a Yugoslav Partisan woman in the next cell. She was dying of erysipelas (contagious) and endangering the other women in her crowded cell. Without medication, I was powerless to help her. Later on the German officer in charge refused to help her on the grounds that she was a Partisan, hence she was not "civilized," and therefore not entitled to medical attention.

It was in this jail that I gave my first lecture—a lecture that I was to repeat dozens of times in the following months. The topic?—It was that close, but treacherous companion of mankind that has devastated armies, that carries a wallop like an atomic bomb, and that during his career has killed millions. It is that dreaded carrier of typhus fever, the *body louse*. (He itches too). This dangerous animal that previously had been something out of a textbook to me soon became a part of our daily life. The routine of picking lice off our clothes became as common as washing our teeth had formerly been.

The Germans soon sent me to Luft Camp IV in Pomerania. This will be remembered as the camp where Allied airmen were bayoneted en masse and bitten by police dogs. There were about 9,000 AAF gunners there and a few hundred RAF enlisted men.

For thousands of captured airmen the 600-mile march from the Eastern Front was an odyssey of disease and death. AAF doctors in this grim cavalcade had little to work with except their courage and medical skill

True, it was a domain of heroes, but from the medical standpoint it was a kingdom of illness. Heroism has its price. First of all, there were those who were wounded, burned, or maimed in aerial combat. Secondly, there were the numerous casualties ranging from irritability to outright insanity. Thirdly, there were the routine illnesses to which any large body of people are subject, including large numbers of skin cases and diphtheria sufferers.

Five Allied doctors were on hand to handle this tremendous sick load. My job was to take care of the 2,400 men of Section "C" —sanitation, sick call, and hospitalization. (As a squadron flight surgeon I took care of only 500 men and had the best hospitals in the world behind me.) The prison hospital, although fairly well supplied at times, was pitifully small. Only the sickest cases were admitted. Others were treated in the barracks area.

Air gunners can do more than shoot. Many of the hospital wardmen were airmen who were trained on the spot. They made good medics. Our buddies in the RAF were good too. These fellows were intelligent, learned fast and worked hard. They worked at Section C Dispensary, where they changed dressings many hours daily, treated minor ailments, and could even spot a case of diphtheria.

Of the many unusual medical incidents occurring at Luft IV, one should go down in history. Doctors often wonder how much of their teachings are absorbed by seemingly indifferent soldiers who register all sorts of gripes about getting shots and try to get out of them. How many soldiers would take their immunizations if it were voluntary?

At the Prison Hospital, we had been accumulating vaccines that the Red Cross sent in. When there were 300 doses of typhus vaccine available for our 2,400 men, notice was posted that at 1,000 hours on Sunday, shots would be given to those who wanted them. There would be no records, no rosters, no Form 81s. If you want the shot, come and get it. If you don't want it, stay away. There are only 300 shots available, first come, first served.

Sunday turned out to be a cold day—10 below zero. I wondered if the men would wait outside so long in such bitter cold just to get the needle. I soon found out.

Hundreds—yes, hundreds of men were waiting in line. There were so many that we decided to give half doses. Shots were given while they lasted—a total of 600—and many had to be refused. It was certainly a triumph for Preventive Medicine.

Early in February, the Germans crowded 3,000 of our men into trains and shipped them out. This included most of our sick and wounded. On February 6, the rest of the camp was marched out on a few hours' notice. I marched with Section C which now numbered 2,600 men. I was worried and wondered if the men knew what was in store for them. We were on the road for 86 days during which we marched, starved, froze, marched, scratched our lice, suffered disease and marched some more. We lived in filth, slept in barns or fields and dodged aerial strafings. We marched from the Eastern Front to the Western Front and then doubled back to the Eastern Front. We covered 600 miles.

For food we averaged 770 calories a day of German rations for the first 53 days of the march. (An American soldier gets 3,500 calories a day.) If it had not been for the Red Cross food parcels we received occasionally many more of us would have died. Those parcels not only gave us an additional 600 calories a day but they were our only appreciable source of proteins. The last 30 days of the march, the Germans issued us more food and Red Cross parcels and were much more humane. They could hear Allied artillery in the distance and knew the day of judgment was nearing.

As a medical experience, the march was nightmarish. Our sanitation approached medieval standards. The inevitable result was disease, suffering and death. We soon found out what it means to live in filth on low rations and little water.

Our first problem was handling the stragglers. Volunteers at the end of the column would spot a fellow who was weakening and support him. When a straggler could not keep up even with help, a medic would stay behind to give him the protection of his Red Cross Arm Band. In that way the straggler was much less likely to be bullied by the guards. Sometimes it didn't work and both medics and stragglers were gun-butted.

The number of stragglers increased daily and it became impossible to support them all. The Germans allowed us to organize a "slow party" which was made up of sick men who were permitted to proceed at their own pace. That helped some. In addition, they gave us a few farm wagons to carry the sick. Uncomfortable and cold as those wagons were, there was a long line of men waiting to get on them every morning. There was room for the sickest only.

In the course of the march, we would pass Allied prison camps which were too crowded to take us in but we were usually able to leave our most serious cases.

At first the stragglers consisted of men with blisters, aching feet or joints, and tired muscles. These men suffered, but they didn't cause us much concern for we expected them to toughen up. The medics made up a slogan: "Keep on marching and your blisters will turn into callouses and your aches into hard muscles." Most of them did, too.

But all too soon the straggling became more serious. Blisters became infected and many an ugly abscess developed and had to be opened. Mud and cold brought frost-bite and in some cases, gangrene and amputation. Men collapsed either from hunger, weakness, fear or pain.

The fifth day of the march, the first case of diphtheria was diagnosed. This soon was followed by a case of erysipelas. Then cases of pneumonia began showing up, and on the latter part of the trip, tuberculosis was in evidence. There were several attacks of acute appendicitis.

But the illness that really plagued us was dysentery—a natural sequence to living in filth and drinking unsafe water. Dysentery just overwhelmed us. It was of varying intensity. Some fellows were just annoyed while others were prostrated. Almost everyone had it. Day after dreary day as we marched along, the roads were lined with our dysenteric comrades relieving themselves. The sad spectacle of a soldier relieving himself right on a village street was so common that it excited no comment from German villagers.

Taking care of all the sick was a heartbreaking job. We started out by organizing a hospital and before long many a former airman was working on our staff. Every night the

(Continued on Page 47)

AAF Mechs Prepare for Peace

Qualified enlisted men are being trained by AAF for peacetime aviation mechanics' jobs. Here Cpl. Leonard Schiff tests blade angle of prop.

PHOTOS BY T/SGT. ROGER COSTER, AIR FORCE STAFF PHOTOGRAPHER

There are many civilian jobs available for AAF-trained aviation mechanics for which applicants must be certified by the Civil Aeronautics Administration before they can qualify. To enable enlisted men to take advantage of such peacetime opportunities, the AAF is conducting a course of instruction for holders of MOS Nos. 747, 750 and 2750 with at least one year of experience, so that eligible personnel may pass the CAA examinations and become certified aircraft and aircraft engine mechanics even before they are discharged.

The course is divided into two sections—Aircraft Engine Mechanic and Aircraft Mechanic. Subjects covered by the first section include carburetion, magnetos, ignition systems, powerplants, lubrication and propellers, while the second part of the course stresses rigging and assembly, wood, fabric, covering and doping, hydraulic systems, sheet metal and welding, plus civil air regulations. Classroom instruction is combined with practical work, and the program employs progress tests and written examinations as well as films, mock-ups and training-aid devices.

Only one hour a day of a man's off-duty time is required for the course, and the period of instruction extends from 60 to 90 days. The program already is available at a number of domestic airbases, and it is expected that air forces overseas installations will soon be participating. ☆

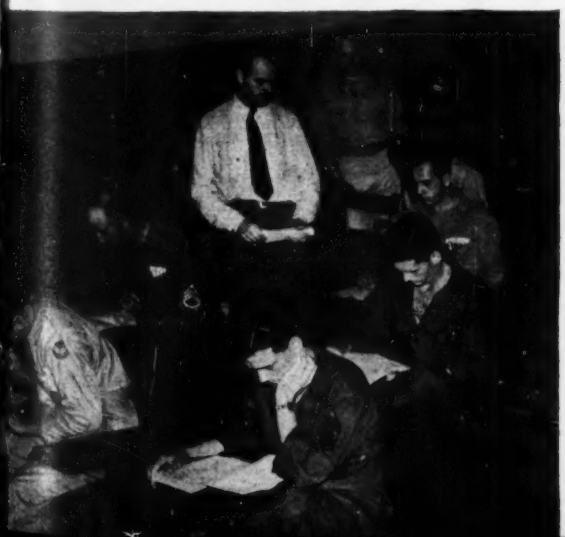
The course lasts from 60 to 90 days and enables a man to pass successfully the required CAA examination. Here Pfc. Thomas A. Needham is running spark plug tests.

Under CAA regulations, a practical knowledge of light planes is essential. Realizing this, M/Sgt. Anthony Cooper studies the generator of liaison-type aircraft during the one hour a day of off-duty time allotted for the course.

Working on the carburetor of an L-5, Pfc. Dudley Dobbs prepares for the test on light plane engines which must be passed before he can receive a CAA mechanic's rating.

Hoping to return to civilian life as fully qualified aircraft and engine mechanics, S/Sgt. James F. McEnery (left) and Sgt. John Gilmour are repairing a wing at one of the many AAF shops participating in the program.

The refresher course consists of both classroom work and practical instruction. Below, students take written examination to determine their grasp of CAA regulations.



At Bolling Field, a CAA technical adviser gives a class a few pointers on wooden propellers (below). Initiated at the D. C. airbase, the program is being made available at other AAF installations, both domestic and overseas.

"Phosphorus bombs fired the control tent."

SIGNAL SERVICE

BY COL. D. M. HARVEY

Signal Officer, 5th Fighter Command

When signal troops went ashore on Leyte two hours after the first wave of infantry to put aircraft warning on a paying basis, they carried with them a net of experience that stretched more than 2,000 miles from the muck of Port Moresby.

Less than two years before they had landed at Moresby with radar equipment and Aussie ground observers. Here they established what was to become the base for air warning operations in the entire Southwest Pacific area.

The radar had scarcely warmed up in Waigani swamp next to Ward's drome when a worried operations officer got on the phone. The secret weapon was here and he was going to use it—he thought.

"Hey look," said Operations, "we got some G-2 on 10 Betty bombers staging at Lae. Can you pick 'em up?"

The radar officer, Lt. (later captain) Roscoe C. Sparks, looked away from the 10,000-foot Owen Stanley's over which the Bettys might come, and peered down at his map. The enemy base at Lae was over 200 miles away. His scope, on a good day, read out to 58 miles.

It was said later that the old radar equipment operated best with a GI seated on the antenna with a pair of field

Our signal troops came up the hard way from Guinea jungle and Leyte mud to spot the Jap in his own backyard

ILLUSTRATED BY SGT. LOUIS S. GLANZMAN

glasses, and that it read one height—5,000 feet. But it was a start and, under Col. John M. Brewer, the Signal Office of 5th Fighter Command plugged away at setting up a system that would cover Papua, Owen Stanleys and all. Their equipment was heavy and outmoded; they had one green battalion, the old 565th. Climate, terrain and transportation were not on their side.

They made a lot of mistakes, and they heard about them, long and loud. When they found Jap bombers looking down their throats, they realized it wasn't a good thing to track targets since the Nips proceeded to ride down the beam. They used HF voice radio until they learned it was easily monitored and even more easily jammed. Air warning field men came in from the festering jungle and cursed the Signal Office, were cursed out themselves and sent back to the jungle to try again. But with probably the most profane communications system (and the most difficult to maintain) in history, they wrested the element of surprise from the heavily outnumbering enemy air force and beagled fighter planes of the command into position to shoot the Nips down.

In 1943 air warning coverage was nearly 100 percent. In the last great daylight raid on Moresby on April 12, there were two hours' warning and a 160-mile track on the incoming bombers. Thirty-six fighters, of which only four were P-38s, went up from Dobodura, battled the Nips across Kokoda Pass, over Moresby and out into the Coral sea. The Nips lost 48 of 100 planes and got the idea that things were getting rough.

In 1944, Leyte's shell-scarred beachhead set the pattern —and it was a rough one—for Fighter Command's air warning operations throughout the campaign. The men knew that the Guinea Air Warning System which had occupied most of their time for the past two years was only a proving ground. That was backyard stuff. Leyte was the Jap's front door.

For three weeks prior to the Leyte landing on October 20, the Signal Office went all out on the job. With the Army field order as a basis, they worked from maps, aerial photos, reliefs and past experience to lay down the campaign plan. Placing radars on the spot is at best a tricky business; working from maps doesn't make it any easier.

A few things were as obvious as they were standard; get air warning, assault early-warning radar on the beach on the heels of the infantry; get GCI coverage to the first captured strip—that was Tacloban; get a control point on the beach, and quick; get the fighter control center in operation to take over from the Navy.

We knew shipping would be first priority. Leyte lay at the head of a gulf that could be attacked from three sides. Island and shore sites on Samar, Homonhon, Dinigat and Leyte's lower tip were "must" items. Priority Number 2 went all the way back to Moresby. A ridge of mountains ran down Leyte's middle, not as high as the Owen Stanleys, but just as tough for coverage. With the Japs' Ormoc base on the other side, the ridge was vital. We figured we would have to ask the infantry for Baybay, 35 miles south of Ormoc.

Long before Leyte, the Fighter Command signal organization had been divided into wings and its original two battalions broken up, augmented and redesignated. Each wing had two battalions, with two skeleton battalions in reserve. The Central Pacific contributed another—Hawaiian trained. Two old companies were picked up—"A" of the 565th, which had set up the first completely American fighter sector at Buna, and "C" of the 583rd, veteran of the Hollandia beachhead. For the fighter control squadron we selected the 49th, organized from the famous 49th Group, and itself a veteran of Buna. Because we had long since learned that maps and terrain very often disagree, that the neatest plans get smeared up in beachhead mud, we formed a Wing Detachment—"H". It was a miniature staff carrying complete authority to adapt the set-up to the tactical situation. It was commanded by Lt. Col. Edgar A. Boadway, who had four Guinea landings under his belt.

By October 10 all units were loaded and moving to Hollandia to join the largest convoy the Pacific had ever seen. Four days later ground observers left by submarine to join the Rangers in taking Dinigat Island in Leyte gulf and to make contact with Filipino guerrillas.

The Leyte landing, except for its size and the soupiness of its mud, was much like any other. The beach was hot in spots, but five hours after the assault began all air warning personnel were ashore and gathering up their equipment. The first night was full of rain and shelling and infiltration and boiling with curses at the mud.

Control and filter personnel, the least encumbered, had the best luck. They moved into the ack-ack control post, set up their radios and started picking up the local air warning net on which the Navy was putting out, contacting guerrilla and ground observer stations and generally getting the feel of the situation.

Radar units had tougher going. The 13th platoon of "C" of the 583rd, scheduled to set up their early-warning equipment at Tacloban, found themselves landed at Palo, eight muddy miles to the south. On beachheads mixups are no novelty. While the infantry was securing Tacloban strip on D-plus-one, the platoon pushed, hauled, carried and bulldozed the unit to Tacloban. They dried it out that night and next day were in operation, racing with the 16th platoon at Palo to get on the air.

Fighter Control Center was itching to set up shop in its semi-permanent position just off Tacloban strip. But a battery of Long Toms had squatter's rights and control center didn't feel like arguing. On D-plus-three the center dug in. It had two lightweight sets and a mobile warning set from the 574th operating, had liaison with the AAA and the Ground Task Force; guerrilla intelligence and ground ob-

server reports were beginning to filter in with the Navy filling in the gaps in air warning coverage. The primary net was in and control center felt capable of taking over control and protecting the beachhead. That was a damned good thing, for the Navy soon was occupied with the Jap task force which precipitated the Battle of Leyte Gulf.

The naval battle looked rough, but it could take care of itself. Meanwhile, the air warning system came in for two lucky breaks. The infantry made a lightning drive across the mountains to grab Baybay; an early warning outfit of the Central Pacific's XXIV Corps chased in behind it. A double landing on the north coast of Leyte and Samar gave the 14th platoon of the 583rd a chance to set up their radar and plug the gap to the north.

The first week had been rugged—infiltration, shelling, bombing, strafing, rain and mud. But by D-plus-10 the air warning system had most of its lightweight radar and two GCI sets operating, plus early warning coverage to the west from Baybay. By D-plus-seven the strips were opened, and the P-38s of 5th Fighter Command's 49th Group came in to the GI cheers that echoed from Tacloban to Dulag.

By D-plus-10 Colonel Boadway and his staff felt that they deserved a night off before sweating their heavy units into position. That night the first typhoon hit. It wiped out the radio shack and message center tent and thoroughly snarled up AW communications. The men at control center cursed and started putting the wreckage together again.

Ordinarily, air warning moves back to a secondary position after the enemy's initial reaction to the landing. By D-plus-10 it was still a question whether the enemy would stick around and fight. Then the first Jap raider came through on the night of November 3 and laid a string of HE bombs 200 yards from the fighter control center. That was the blowoff. Enemy planes made run after run. Ack-ack drummed out the night. At 0200 phosphorus bombs fired the control tent; half the personnel beat out the flames while the rest continued to plot incoming planes.

The control center operated behind blackout curtains until the powerplant was hit; then the men worked with flashlights. The operation was continuous and a stream of enemy plots and friendly night fighters flowed steadily across the board. When the shift was relieved at 0600 the men had a pretty good idea that the Nip was going to put up a fight for Leyte. They knew it when the first convoy, spotted by ground observers and guerrillas, ran into Ormoc. All ships were knocked out, but plenty of Jap troops got ashore to strengthen the Japs on Leyte.

It was the sucking, oozing mud that gave air warning its major role. The mud slowed divisions to a creep and made bogs out of airstrips. It was no place for heavies or mediums. It was a job for the fighters. They had to fly cover, beat off enemy strikes on friendly shipping, prevent enemy convoys from reaching Ormoc and squeeze in air support missions for the infantry. There were never more than 90 planes operational, so it was up to air warning to present the information which would allow the most efficient disposition of the aircraft.

From D-plus-20 until D-plus-50, there was no enemy raid that was not detected and tracked. There was no convoy that was not reported by ground observers. There was no surprise raid on any installation. During those 30 days, ack-ack and fighters shot down 467 enemy aircraft. Five convoys were destroyed with help from Morotai-based mediums and Navy planes.

Things stayed too hot for control center to move out of its make-shift set up at Tacloban. But up at Burauen, our Fighter Command moved in near Bomcom; Air Force and Signal Section set up their own operation board. On the big board, behind blackout curtains, Brig. Gen. Paul B. Wurtsmith and his operations officer, Col. Robert Morrissey, sweated out the disposition of their fighters and set up missions. Completely cut off for a week by a coordinated enemy paratroop and ground attack (see "Banzai in Burauen," AIR FORCE, March 1945) they were still able to keep their fingers on the pulse of the air war.

Meanwhile, the AW system heaved its heavies into place and started to experiment, coming up with some neat new wrinkles. On the ridge behind Fighter Command, Lt. Eddie Worrad of 49th Fighter Control set up a visual control post—an installation consisting of a lap board, a radio to monitor fighter control center and a sergeant to split the shift and keep the coffee boiling.

Out of 12 contacts, Worrad counted nine kills.

It was the first step toward a completely mobile fighter control center which could travel with Army headquarters.

December 7 brought the payoff of the Leyte campaign. General MacArthur had come to the bold decision of taking his 77th Division out of central Leyte and shipping it around the island for a frontal attack on Ormoc. But the Japs had plans too. Guerrilla nets began to buzz with news of a Jap convoy moving down from Manila. The fighters, primed for an escort mission, would have to split —part for defense, part for attack.

In the fighter control center that morning officers and GIs watched, and kept their fingers crossed, as the target stands moved across the gridded board with agonizing slowness. The Yank convoy moved on; so did the Nip. The Yank cover circled carefully; so did the Nip. Enemy targets started to line up out in the Camotes Sea. P-38s and P-47s and naval aircraft rendezvoused over Tacloban and roared west. The target stands began to converge. Air-ground monitors started to crackle. The target stands converged in the center of Ormoc Bay. It was Fourth of July with bells on.

Late in the afternoon reports began to trickle in: all 13 ships of the Jap convoy sunk; 81 Jap aircraft shot down against our loss of five; a completely unopposed landing by the 77th. The back of the Jap defense was broken.

A week later our troops were in Mindoro. Six weeks later they were rolling down the highway from Lingayen to Manila. With Corps headquarters went a unit which had developed out of Worrad's visual control post on the bluff at Burauen—a mobile fighter control center working in a motorized van.

When the battle for Leyte was over we finally got around to summing up the job air warning had done. This is what our check sheet showed: The units had started giving warning on D-plus-two; they had covered a high percentage of all raids for the entire campaign and bombing casualties had been remarkably light; in spite of changes growing out of the tactical situation, the final coverage looked very much like the original plan.

The end of the Leyte campaign was the end of another phase of air warning. All emphasis had been on the control of interceptors, detecting the enemy and vectoring the fighters to the most advantageous position. But as the Jap air force dwindled in striking power, air defense and air warning assumed less and less importance.

On Luzon enemy raids quickly fell off to nothing, and we began working more and more on direct air-ground coordination. There, for the first time, we put out visual controllers, known as air support parties, who used radio-equipped jeeps within visual range of the target to direct low-flying aircraft against stubborn Jap ground positions.

With experience in the Philippines and sweat in New Guinea behind us and with our equipment getting better and better by the day, we were confident of success in our final mission that was scratched by the Japanese surrender. ☆

Tempelhof Turnover

Tempelhof eagle's swastika yields to American emblem.

By an AIR FORCE *Overseas Staff Correspondent*

The target we tried not to hit in Berlin, because we wanted it for postwar use, was big, egg-shaped Tempelhof airdrome. It is now Hq Berlin Air Command, home base for various AAF units with personnel totaling 2,500.

"When we moved in last summer," explains Col. William G. Booth of the 9th Air Force, CO of Tempelhof, "the place was a shambles. We bulldozed a clear space for landings and take-offs and went on a full schedule the first day. But getting the place policed up is terrific. The big handicap is size—we're a respectably large outfit but we feel like a midget walking around in Primo Carnera's clothes."

The 20-odd bombs that had fallen in the landing area were overs and shorts from RAF and 8th and 9th Air Force bombers. The mess that Colonel Booth had waded into was caused by ordnance of Russian ground forces who had to spend two days dislodging the Germans.

The immense ovoid landing area has been entirely cleared, and the ATC and TCC components at the airdrome are doing a heavy business these days, making Berlin once again a big air center. At present the daily average is 70 plane movements, virtually all C-47s of ATC or TCC, and activity is increasing. The Troop Carrier unit in Berlin functions like the ATC; it specializes in transporting leave personnel to places such as Nice and Cannes.

Long before it hummed with air traffic, Tempelhof (original home site of the Knights Templar) was a parade ground where the Kaisers reviewed their stiff-legged troops. The first Tempelhof event of especial interest to the AAF occurred in 1909, when Orville Wright made several prophetic flights there in a curious contraption then called a flying machine. A few German fighter planes were based there in 1918. Commercial planes began operating at Tempelhof in 1925. An easy target, it was little used by the Luftwaffe in World War II.

What makes Tempelhof the world's greatest air terminal are the buildings, not the landing-field space, which has a long diameter of 7,000 feet, running NW-SE, and a short diameter of 5,200 feet, going at right angles. These dimensions and the installation's 1,333 acres are exceeded by the B-29 bases and by many commercial fields. But no airport in the world can match the vast, Pentagon-like buildings that edge the field and, at one side, form colonnades and quadrants around a 1,000-foot entrance plaza.

The field itself was laid out minus runways. Some of the AAF pilots who have come in on its turf have said they liked a surface that absorbed so much of the landing shock. Others complained about the sward's fouling up the undercarriage on muddy days. Those who prefer a hard apron are pleased with the recently superimposed runway of pierced-steel planking that runs due east and west for 5,000 feet. But pilots have something else to beef about in landing at Tempelhof because the horizon is spiked with church steeples, high buildings, water towers, flag poles and chimneys, while the long diameter of the field is in direct line with the highest point of the main hangar.

This hangar itself is a pretentious affair which, like the rest of the airdrome's architecture, could have been dreamt up only by a Pharaoh, a Roman emperor, or a Nazi. The hangar is 70 feet high, 170 feet long, and three-quarters of a mile wide. Its semi-circular roof is supported by girders cantilevered out from massive Krag steel columns. The passenger-loading platform took up 1,246 feet; here planes taxied in under the roof, loaded, taxied out. The Nazis planned to have a sightseers' gallery on the roof, where 30,000 entranced spectators at a time were to watch the fabulous aerial traffic of the victorious Hitler's postwar Berlin. Rumor has it that three thrones were to be built in the middle of the gallery where Hitler, Goering and Goebbels were to have sat on state occasions and bowed to the happy throngs of worshippers. Russian gunfire made the roof of the hangar into a sieve during the Battle of Tempelhof, and in rehabilitation plans the Ripleyesque project of the grandstand has the lowest possible priority. ☆

Overall aerial view of Tempelhof airdrome, showing terminal buildings, landing area and central hangar that is three-quarters of a mile wide.

Battling the Occupation B

ILLUSTRATED BY SGT. LOUIS S. GLANZMAN

BY CAPT. AARON HOTCHNER
AIR FORCE *Overseas Staff*

Five thousand GIs and French civilians recently jammed the streets in front of the Palais de Glace in Paris, trying to get in to see the finals of the AAF boxing championships for the ETO. Inside the stadium, a capacity crowd literally jammed the rafters watching eight pairs of AAF sluggers throw leather back and forth in a series of bouts that had more class than the Golden Gloves finals. This fistic event, the first major service boxing tournament held on the Continent since World War I, marked the start of an ambitious sports program designed to keep AAF personnel busy while sweating out the big trip home.

Now that our squadrons in Europe are settling down at more or less "permanent" bases, demands for football equipment, horseshoes, academic classes, ping pong balls, jive bands, cowboy movies, GI funnies and comely dancing partners are flooding special services and education offices from Berlin to Biarritz. Recreation officers face the prodigious job of making life interesting for the thousands of men required to operate USAFE's network of bases.

The sports program now underway will go far toward filling in some of the dull gaps in GI life on the Continent. Tournament and league competition, which was going full blast in the AAF long before the war ended, is now being correlated with similar leagues being set up by the Ground Forces and other components. A good indication of the size and popularity that these inter-league contests are likely to attain can be found in the All-Theater swimming and track championships held in Nuremberg's huge stadium in the summer. It seemed fitting that the first "GI Olympics" be held in bomb-blasted Nuremberg, once the scene of some of Hitler's most lavish master race demonstrations. The thousands of soldiers who crowded the low stands around the ultra-modern, ten-lane pool, were rewarded with an exciting contest in which the 7th Army barely nosed out USAFE.

The track and field meet, held a week later at Nuremberg Stadium (renamed "Soldier's Field") was the climax of the GI Olympics. Probably the most colorful athletic carnival since the 1936 Olympics, this meet, won by a powerful 3rd Army team, gave real indication of the size and spirit of future championship events. Nurembergers say that the Nazi planned to use this stadium, which was the Hitler Youth headquarters during the huge Nazi party gatherings, as the place where Allied units would be paraded and made to eat dirt in humility before their Nazi captors. The Allied parade so far—in addition to the swim and track events—has included archery, horseshoes, baseball, softball and football. A tennis championship was played at historic Wimbledon in England; the golf title was decided at Saint-Cloud, near Paris. Wacs have been busily running off championships of their own in various part of the Continent.

Although the final events of these championship contests allow only a few athletes to participate, thousands of teams train and compete at the start of the tournament. For example, every station under USAFE's command is notified months in advance that an AAF Championship Basketball Tournament will be held on a particular date. The various squadrons of each station then decide whether they wish to participate and a league is formed at each station. At the end of the season the winner of the station league is sent to compete in a play-off tourney conducted by the wing. This winning team, in turn, takes part in the command contest which determines the finalists for the USAFE play-offs. The USAFE champion then vies for ETO honors against the top teams of the other organizations in the theater.

Although league and tournament contests inevitably are more widely publicized, the men who are planning the AAF program are placing the chief emphasis on mass athletics, sports for all. And instead of trying to get the men interested in calisthenics which, no matter how disguised, is still push-ups and deep-knee bends and something that the average GI likes a little less than night KP, the AAF policy is to get a large variety of athletic equipment

Blues

Whether it's a course at Oxford or a boxing match in Paris, the AAF provides plenty of opportunity to combat boredom among ETO peacetime forces

to the squadrons and permit the men to engage in whatever sports they desire. Special services reports show that squadrons are continually running off tournaments in horseshoes, ping-pong, softball, pool, touch-football, darts, volley-ball and a wide variety of other sports. Probably the most popular tournament game is darts, which undoubtedly is a carry-over from the pre-invasion pub days.

To aid and abet its sports program, USAFE's Special Services Section is running a clinic for coaches and referees. The clinic's faculty is comprised of well-known college coaches and officials who are flown over to the theater on special assignment.

For the air force man who is not particularly keen about athletics, the Army provides extensive educational opportunities, ranging from a two-week course in animal husbandry given at his airbase, to a nine-week course in political economy at Oxford University. Col. C. R. Frederick, who heads USAFE's educational program, comments: "Any man over here who wants to go to school can pretty well write his own ticket, no matter what subject attracts his interest."

The most accessible classrooms are in unit schools which function at each air force station. The curriculum of these schools is determined by the men themselves on the basis of an educational survey. For example, if there are 10 or 12 men at an air depot group who decide that they would like to study business law, a class is set up for them. This class then meets for three or four weeks, two hours each day. There are no entrance pre-requisites in these unit schools, anybody can attend and ask for any course that is given. A glance through the current bulletin of the station Headquarters 9th Air Force Unit School reveals such courses as "America in Literature," "Modern News Reporting," "20th Century Bookkeeping and Accounting" and "Automechanics Course I, the Engine."

Although the unit school functions for the largest number of students, the meccas of learning in the ETO are the two American University Centers at Shrivenham, England, and Biarritz, France. Several hundred professors from outstanding universities in the United States were brought to England and France to make up the faculties. At these colleges the student has no KP, guard duty or other military chores. Needless to say, enrollment is always at a maximum.

Don't get the idea, however, that the courses at Biarritz and Shrivenham are snaps. If anything, they are a little more difficult than the average college course in the States. The universities operate on a three-hour, five-day week schedule and a student is required to put in one hour of outside study every day for each course he takes. Only enforcement of this rule, however, is the student's conscience; a GI is not expelled for low grades—that is, unless it looks as if he's goofing off. Ninety percent of the enrollees are enlisted men, 10 percent officers.

The American Technical Training School at Warton, England, is concerned with bringing men who had had previous training or experience up-to-date on the advances in technical fields such as plumbing and heating, architectural drafting, teletype installation and maintenance, refrigeration, radio service and numerous other crafts. Students who pass satisfactorily are given certificates which should be useful in obtaining jobs.

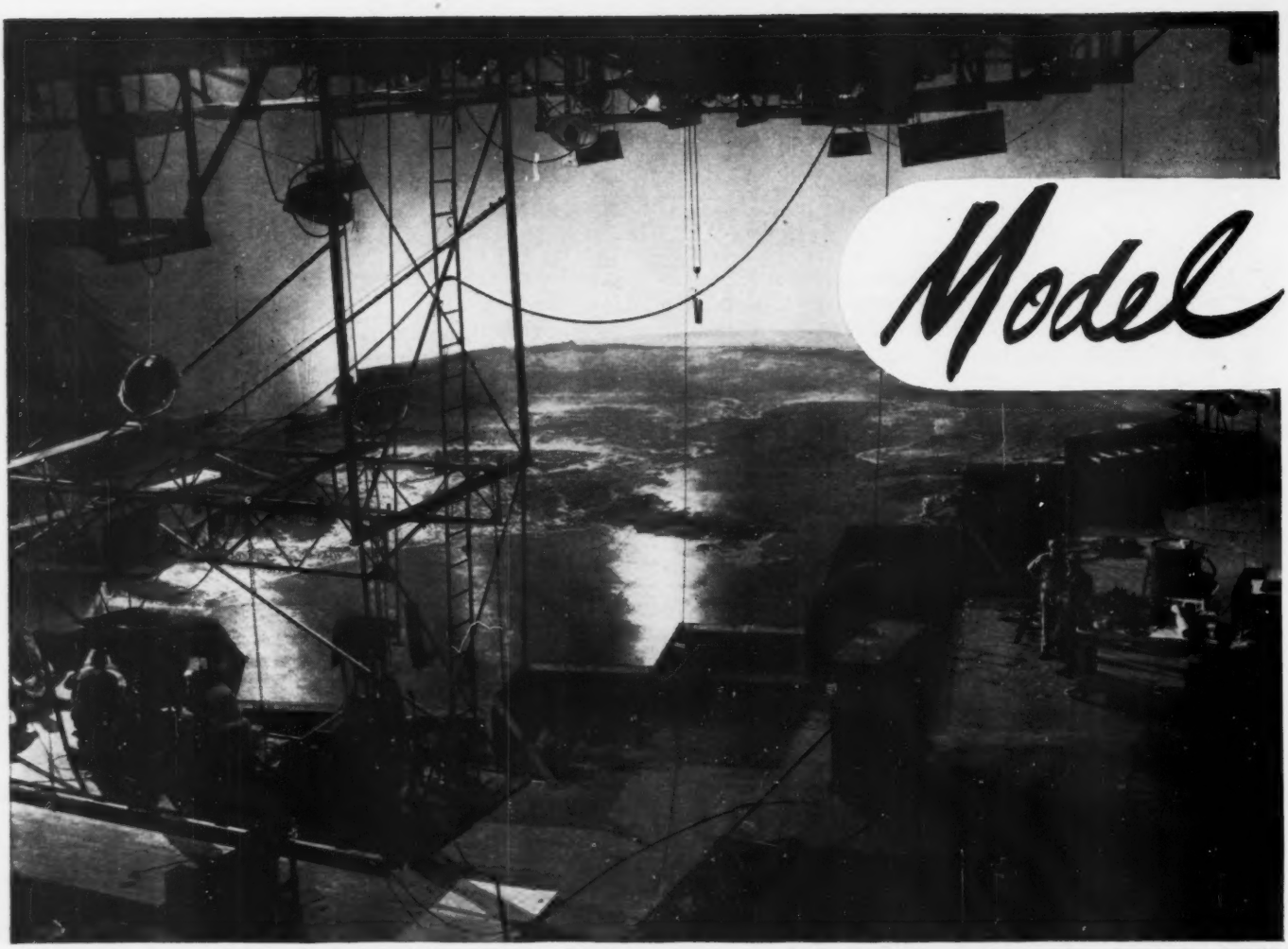
To augment Warton's technical training opportunities, an on-the-job program has been set up for men who want to learn a specific trade but cannot meet the pre-requisites for entering Warton. These on-the-job classrooms are spread throughout Europe; a swank gambling casino in Southern France now contains a laboratory for X-ray instruction; a warehouse in Germany that contained bolts of Nazi cloth is now the classroom for a course in spray painting; a former bakery in Luxembourg has been outfitted with machines and is an on-the-job classroom for studying the use of engine lathes.

Last July, the Sorbonne opened its doors to American part-time students and the first class was composed of 800 officers and enlisted men who took a 60-day course in French language and civilization. By now, other schools in England, Belgium and France have many GI enrollees. These include Oxford, Kings College, Nottingham University College, University of Brussels, University of Paris and other famous seats of learning.

Numerous specialized courses are offered by private businesses and civil administrative offices. A seven-week course at the Cours de Syndicat de Couture Parisien gives the lowdown on Paris styles in dressmaking. Visits to famous fashion salons, talks by well-known designers and a fling at designing and making garments keep the students busy. Most of the students are Wacs and nurses.

(Continued on Page 47)

Model



Miniature Japan used for films had crane, left, synchronized to bring camera over "terrain" at comparative speed and altitude of B-29.

The topography of Japan became an involuntary movie star during the later phases of the war, when the AAF Moving Picture Unit at Culver City made miniature replicas of enemy terrain for use in B-29 briefing films.

Two sound stages were devoted to this project. Every available bit of information on future 20th Air Force targets was used to make these reproductions accurate. They were uncannily life-like, as the pictures on these two pages show. Textures of paperboard, plaster, dirt, sand and fabric materials, painted, became cities and mountains, aircraft works and harbor installations. Airfoam from mattresses simulated forests; piano wire served for railroad tracks.

Counterfeiting the targets themselves was only part of the job. The Superfort crews needed more than this in the briefing films; they had to be shown exact routes to targets, complete with landmarks, check points, initial points and points of bomb release. Besides this, B-29 radar

Basic contours of Japanese land forms were cut from composition board and then stapled together as preliminary step. Later, plaster and other substances were added before the entire fabric was painted.

Corner of "Japan" gets a little sand in its facial make-up as AAF Motion Picture Unit technicians prepare it for the shooting of a strip in a briefing film for Superfortress crews due for missions over Japan.

Target

Realistic copy of Yokusa naval base for briefing film even has sunlight on sea. Ripples were made by spraying plaster on composition.

operators needed movie sequences that would show them in advance what would appear in their mickies while bombing through an overcast.

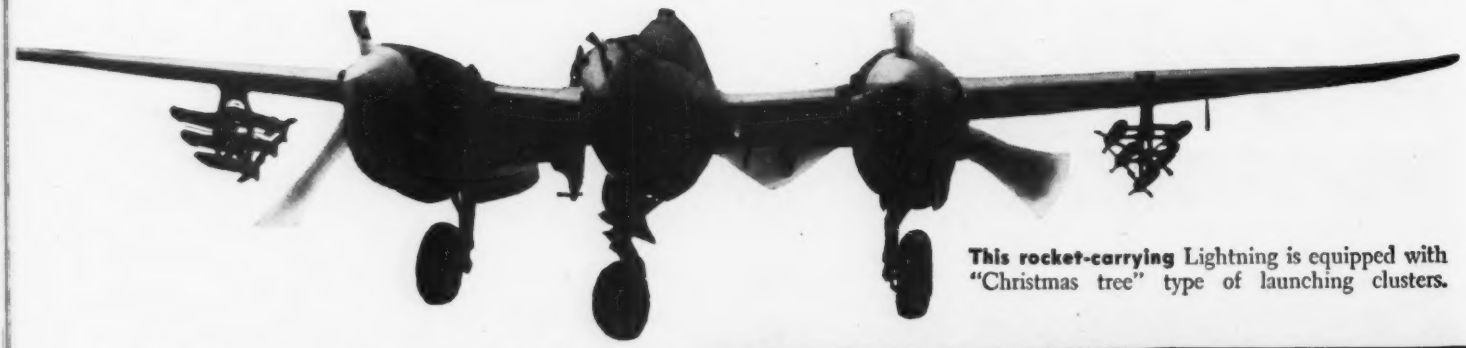
The Culver City unit produced footage for bomb runs on each important industrial installation that the Superforts were smashing toward the end of the war. At least 20 prints of every picture were rushed to Saipan by special officer courier, and by the time the crews saw the actual targets they knew them cold. ☆

Reconnaissance photo is used to guarantee accuracy as the miniature replica of an industrial target at the mouth of the Edo River in Tokyo Bay gets final touches. Ocean has been sprayed and painted.

Comparative size of a hunk of "Japan" is shown by Capt. William F. Ryan, who is doing the Gulliver here. Captain Ryan, a radar-navigator, supervised radar phases of the photography for film unit.

LETHAL SKY ROCKETS

BY SGT. PETER BAUMANN
AIR FORCE Staff



This rocket-carrying Lightning is equipped with "Christmas tree" type of launching clusters.

Early in the war it became apparent that something was needed to bridge the gap in aerial armament between the machine gun and light cannon on the one side and the bomb on the other. Guns were suitable for strafing attacks against personnel and light material, while bombs could be used only against large targets. The field was wide open, therefore, for an accurate intermediate weapon of great destructive power to be used against such pin-point objectives as tanks, fortifications, small warehouses, bridges, supply dumps and multitudes of other enemy installations.

The 75-mm cannon was proposed for this purpose, but tests conducted by the AAF Proving Ground Command at Eglin Field, Fla., showed that it was heavy and slow-firing, and could not be adapted to more than a few types of aircraft. Aerial rockets, on the other hand, could be thrown forward at high speed without reaction on the plane, without having to sustain the dead weight of a cumbersome gun, and without reducing the number of machine guns, the bomb load or the external fuel tanks carried. Rockets were comparatively light and could be slung under the wings of fighter craft with only a negligible loss in mph, while launching devices could be jettisoned if necessary. Through the use of an intervalometer they could be fired singly or in salvo, and accuracy could be developed to such a high point of dependability that by launching several rockets at a time a pilot could practically insure a direct hit on a target as difficult as a moving locomotive.

Ripple of 10 five-inch High Velocity Aircraft Rockets goes some 1,800 feet per sec

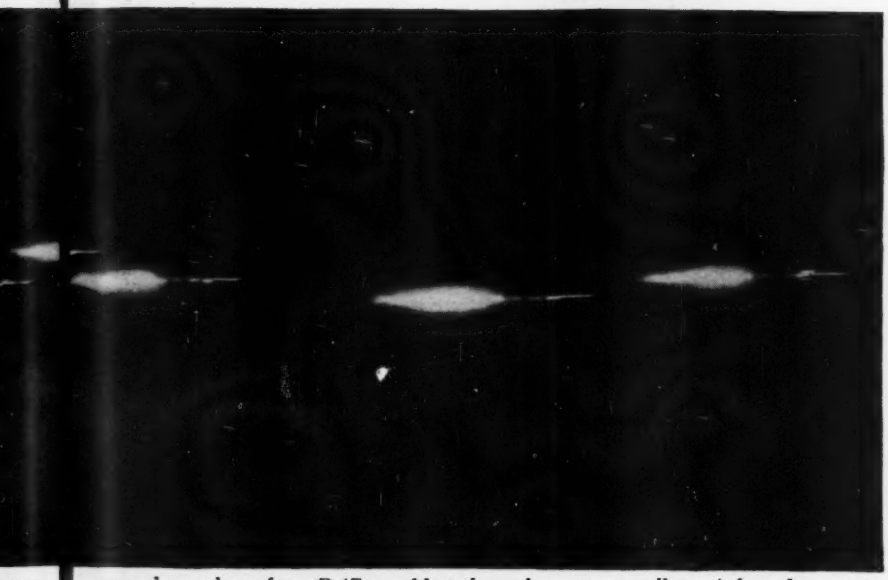
As compared to a cannon, rockets offer greater mobility and a more concentrated volume of fire under certain circumstances, and can be used at daisy-top levels. Moreover, the installation of a heavy caliber gun in a plane is limited by the ability of the airplane structure to withstand the recoil. The force to be absorbed from a 40-mm cannon firing a three-pound shell, for example, is in the neighborhood of 6,000 pounds. The plane must therefore be stressed to "take it," and the caliber of the gun is necessarily limited by the point where it becomes impracticable to strengthen the airframe any further. In rocket operations, this factor presents no problem, since the recoil is taken up by the high velocity gases ejected by the rocket itself, which blow beneath the wing surfaces and do not affect the plane's attitude of flight, permitting the craft to fly steadily on its course during the firing of successive rounds.

The advantages of rockets over bombs, for special purposes, are equally impressive. Rockets launched from fast-flying planes are driven by the thrust of a mighty charge of propellant powder, while bombs fall to the target merely under the pull of gravity. In consequence, the impact of a rocket may be as much as four times that of an ordinary bomb, with a terrific penetrating and blast effect, spreading deadly fragments and hot metallic ashes over a wide area. Then, too, under conditions of low attack, detonation will occur well ahead of the plane, whereas in similar circumstances a bomb would burst almost directly beneath it.

Basically, the rocket is a self-propelled missile composed of three principal parts: 1, the head, sometimes called the body, which may contain HE, smoke, shrapnel or incendiary chemicals; 2, the motor, a tube extending to the nozzles in the rear and housing the propellant material, and 3, the fins, which help stabilize it in flight. When the propellant in the motor, usually a solid powder, is ignited, it generates flaming gases which exert pressure in all directions inside the tube, but which are allowed to escape through the rear at a high rate of discharge. This produces a reaction against the warhead in the opposite direction,

In the closing stages of the war, rocket missiles proved themselves to be one of our most effective aerial weapons

P-47's eight machine guns are augmented by 10 five-inch HVARs seen under wings.



second on release from P-47, can blast through armor as well as reinforced concrete.

and the rocket is propelled forward, continuing to accelerate as long as the propellant charge burns. The fin assembly comes into play after launching and serves to stabilize the rocket on its true course so that it follows a predetermined path to the target.

The AAF's active interest in rocket development dates back to June, 1942, when the Material Center at Wright Field was charged with the responsibility of adapting rockets for aircraft use. Although no rockets had been solely designed for planes in the United States, Army Ordnance had had considerable success with a fin-stabilized rocket manufactured for the ground forces, and this was immediately modified for aerial purposes. The Ordnance rocket was a 4.5-inch diameter projectile, designated M-8, three feet long and weighing approximately 40 pounds. Fired from the air it had an effective range of from 800 to 1,000 yards, and was launched from a tube 10 feet long, obtaining its stability by means of folding fins attached to the rear of the motor which opened as the rocket emerged from the tube. As installed under the wings of aircraft, three of these tubes were mounted in either an M-10, M-14 or M-15 cluster, with firing being accomplished by individual electrical circuits. Although the tubes were made of light plastic and could be dropped after use, initial trials in various theaters showed that their additional drag caused a loss of performance detrimental to tactical employment, and it soon became obvious that better rockets and superior methods of launching would have to be designed before the missiles could take their place as standard weapons in operational aircraft.

After various other rocket models were experimented with, the California Institute of Technology, working with the Navy under contract to the Office of Scientific Research and Development, initiated a vigorous program in the spring of 1943 to perfect forward firing rockets for aircraft. Research was accomplished in a relatively short time on a series of projectiles and launching methods, and three principal rockets were evolved. These were the 3.50-inch aircraft rocket (AR), the 5.0-inch aircraft rocket (AR) and the 5.0-inch high velocity aircraft rocket (HVAR)—all fin-stabilized and suited for a variety of different targets.

The 3.50-inch AR consisted of a motor 3.25 inches in diameter attached to a 20-pound solid steel head, resulting in an overall length of 65 inches. Its weight was 54 pounds, maximum velocity 1,175 feet per second in addition to that of the plane, and effective range approximately 1,000 yards. The primary use of this weapon was the destruction of submarines, for the solid steel head could easily penetrate the hull of a sub after substantial underwater travel, causing great damage.

The 5.0-inch AR was composed of a high explosive warhead 5 inches in diameter attached to the motor of the 3.50-inch AR, thus increasing its total weight to 80 pounds while maintaining approximately the same overall length. Although the larger head slowed down the rocket to a velocity of about 850 feet per second, the explosive charge in the warhead provided a greater punch against targets where penetrating effect was not of primary importance.

It was from this latter rocket that the now famous 5.0-inch HVAR was finally produced, utilizing the warhead of the 5.0-inch AR attached to a 5-inch diameter motor. Total weight was increased to 140 pounds, including eight pounds of HE in the warhead, and length was standardized at six feet. Blazing along with an accurate range of 1,000 yards, the rocket was capable of penetrating armor and reinforced concrete. To add to its versatility, the armor-

piercing plug on its head could be replaced with a nose fuze set for instantaneous explosion on impact.

To launch these rockets, a zero-rail was devised, consisting of two streamlined posts, or studs, one at the forward end of the rocket and the other at its rear, which held the projectile at a point some six inches below the surface of the wing, parallel with the datum line of the plane.

A launcher establishes the initial direction of a rocket's flight by constraining the motion of its center of gravity until it leaves the launcher. Proper aiming will locate the center of impact of a group of rounds on the target, but the accuracy with which the individual rockets follow this aim depends considerably on the construction of the launcher. In some prior installations, notably those of the British, long guide rails were used to give the rockets initial accuracy, but as experience was gained in rocketeering it was found that a fixed fin rocket tended to align itself with the airstream in the same manner as the common weather vane, and that it was possible to obtain comparable accuracy on fast planes from minimum-length launchers. The term "zero-rail," then, refers to the absence of guide-rails of any kind and is used to describe a device that fulfills all the requirements for launching, yet actually guides the rocket for only about an inch of relative motion.

The devastating effect of rocket weapons (the 5.0-inch HVAR has roughly the explosive power of a 155-mm shell) has made the AAF fully aware of its potentialities, and every effort has been made to exploit new developments to the full. To this end, an experimental station was established at the Dover Del. Army Air Field, under the jurisdiction of the ATSC, during the summer of 1944, and a training center for rocketeers was set up at Foster Field.

As a result of cooperative work by the AAF Army Ordnance, Navy and NDRC, new installations were designed, rockets were tested, methods of launching were devised and the effectiveness of rockets against various targets was evaluated. The AAF station at Dover was manned by approximately 200 rocket experts and technicians under the direction of Col. Donald B. Diehl.

In the Normandy breakthrough the AAF made the first combat use of the five-inch HVAR. Numerous attacks were made by a rocket-equipped P-47 group on targets in the St. Lo area of France and spectacular results were obtained. In rapid succession, reports of the destruction of locomotives, tanks, airfields, gun positions, warehouses, bridges and rail yards, came back from the front, and as more and more rockets reached the forward lines, the havoc that could be wrought by this new scourge from the sky became increasingly apparent. On July 17, a dozen Thunderbolts made a rocket attack against a rail yard at Tiger-Quail, silencing a flak tower with a direct hit on the first run and destroying 25 locomotives, three repair shops and a roundhouse on subsequent swoops. On the following day, 12 more aircraft struck the airfield at Coulomiers, launching 37 rockets. One large and four small hangers were hit and an ME-110 and a fuel dump were destroyed. Two staff cars were also struck, the rocket passing through one of them and exploding in the other. In a two-month period, one unit of the 9th Air Force made 323 sorties and fired 1,117 rockets for which 371 targets were claimed as destroyed and 105 listed as damaged.

In the Pacific the success story was more or less similar, with aircraft rockets being relied on extensively for attacks against Jap installations. The 10th Air Force in Burma, for example, installed rockets under the wings of B-25s, scoring 55 hits out of 99 rockets fired on 9 missions against supply dumps, rolling stock and buildings.

The objectives against which rockets have been found to be effective are so numerous and varied that it may be safely said that anything which could be put under artillery fire, if it were within artillery range, could be considered a good rocket target.

The type of plane that is best adapted for the firing of rockets is one that has good maneuverability at high speed. Thus, fighters make the best rocket carriers, with dive bombers second and torpedo planes third. The degree of accuracy obtained with the weapon depends upon the altitude of the plane, dispersion of the rocket after launching and aiming error of the pilot. Inaccuracies, however, decrease as the speed of the plane is increased, so that at 250 mph a trained pilot can put half of his rockets within a 16-foot circle from a range of 400 yards.

In addition to the work on the 5" HVAR, the AAF conducted research on other rockets, and in cooperation with NDRC Allegheny Ballistics Laboratory, Cumberland, Md., a 115 mm rocket was developed which weighed 36 pounds less than the HVAR, yet had comparable accuracy and target performance at ranges up to 1,000 yards. The lightness of the 115 mm rocket made it possible to be launched by the "tier" method, in which two of these projectiles were carried by each post, one beneath the other, in order to double the effective rocket power of the individual plane.

To eliminate the drag caused by empty post launchers on the flight homeward, a retractable launcher was devised which disappeared into the wing after its rockets had been fired, and which enabled a rocket load to be jettisoned in an emergency. Also, as a logical step in the direction of total streamlining, experiments were conducted at Dover in the drop-launching of 115 mm and 5" HVAR rockets from the bomb bays of attack aircraft, with an ignition delay before firing sufficient to allow clearance beneath the fuselage—a method previously developed with another rocket by NDRC Caltech group and the Navy.

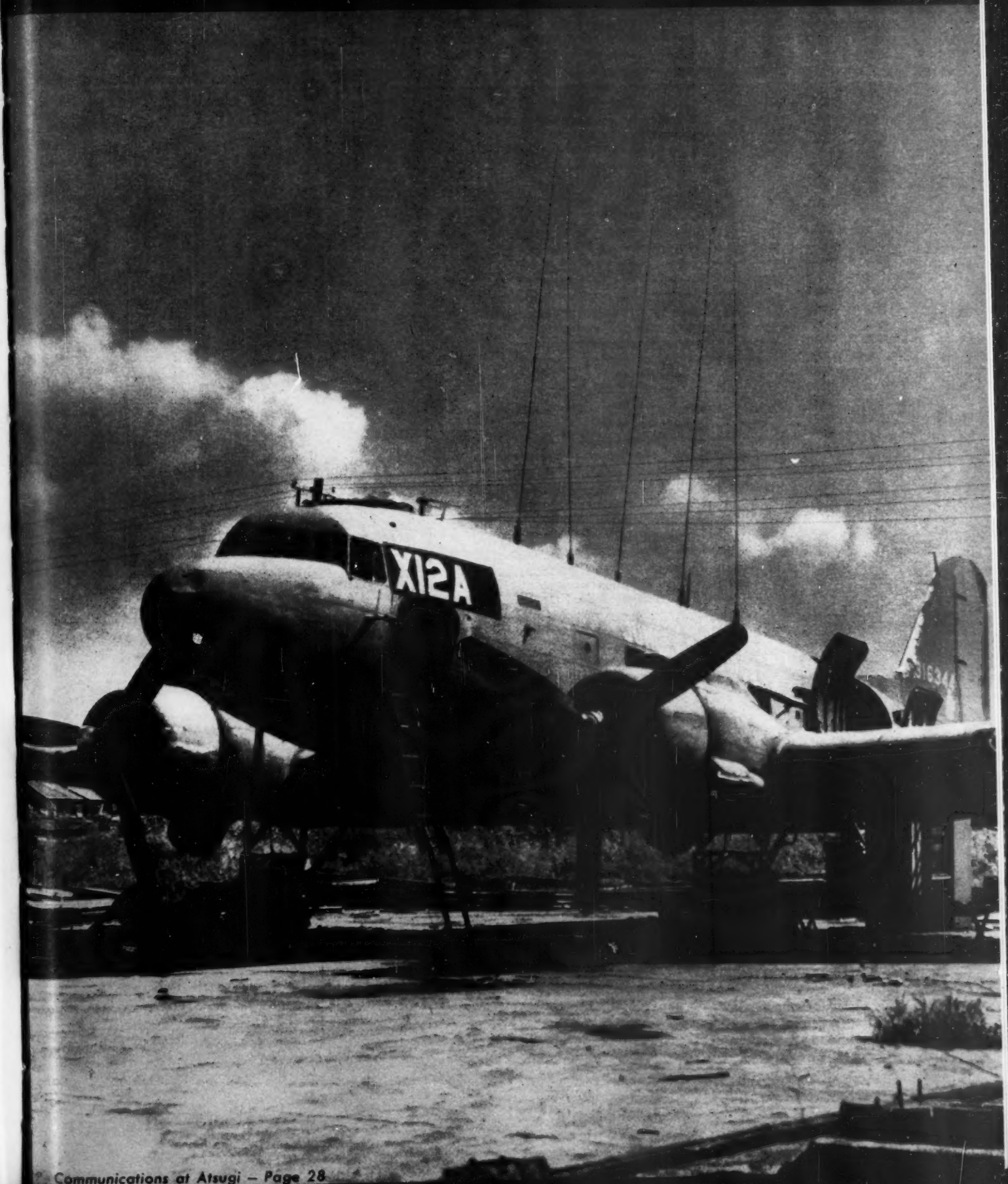
Even earlier the desirability of an internally carried launcher was apparent. A six-round automatic launcher for 4½", M-8 and spinner rockets was fabricated by the United Shoe Machinery Corporation, which showed considerable promise in its operating principles. The device used a series of paper-plastic carrier tubes in a vertical magazine, with an electric drive indexing the tubes successively downward to the bottom of the magazine and into alignment with a launching barrel and exhaust tube, at which point it was fired. The empty carrier tube was then jettisoned.

Following ground tests and air firing, a B-25H equipped with this internally carried launcher was flown to the Burma-India theater and combat-tested by pilots of the 10th Air Force against Japanese targets in northern Burma. The automatic launcher fired its six rockets at the rate of two per second, or at the rate of 120 rounds per minute, as compared to the 10 or 12 rounds per minute of the 75 mm cannon, and served as the forerunner of improved models which were reloadable in flight and which could carry 16 or more rounds. From the success which a new, revolver-type launcher made by the Bell Laboratories under an NDRC contract received during tests at Dover in May, 1945, it may be assumed that the day may not be far distant when all rockets launched from aircraft will be carried within the sleek shape of the fuselage.

At the war's end, the AAF's program for rockets showed that many innovations were being planned. Rotational stabilization, in which several offset nozzles would produce a rotational as well as a forward thrust, was on its way to becoming an actuality, cancelling out the effects of any eccentricity in the rocket, reducing dispersion and eliminating the bulky and fragile fins which have made rockets hard to handle and store. ☆

News and Views around the World

CROSS COUNTRY



Communications at Atsugi — Page 28

Contact on the Double

Not to be lost in the general shuffle of individual stories concerning the landings of the 11th Airborne Division on Atsugi airdrome in the days immediately preceding the formal Japanese surrender ceremonies in Tokyo Bay is the account of the 68th Army Airways Communications System group which paved the way.

This was the group's biggest show. It had been carefully rehearsed on Okinawa days before and when the actual performance began, nobody missed a cue. The advance echelon of the group hit the runway of the airdrome outside Tokyo at 0845 on August 28. From one of its C-47s rolled a completely equipped jeep-mounted control tower. It was on the runway and ready to handle air traffic before the last plane in the initial flight of 11 touched the ground. In less than 45 minutes, radio transmitting equipment installed in the Army's first flying radio station was in contact with Okinawa, giving other planes en route Japan full information about weather and field conditions.

Within a few hours after the first Jap surrender report, Gen. George C. Kenney called Col. Gordon A. Blake, CO of the 7th AACS Wing, into his headquarters and outlined the communications requirements for the first phase of the occupation:

"We will need a flying AACS station which must land and get into operation before the second wave of planes (C-47s with insufficient range for round trip) reaches the point of no-return. After you have landed you will radio the all-clear back to Okinawa. Or in the event that you encounter treachery, you must intercept planes already in flight before they proceed too far. Your second requirement will be to provide navigational guidance for all our planes into Atsugi by setting up homing beacons and a four-course radio range. Finally you will be required to direct traffic on and off the fields."

Colonel Blake picked up his phone and outlined the plan to Col. Reeder G. Nichols, CO of the 68th group. "Can you do it, and if so when will you be ready to leave?"

"Give us 48 hours and we'll be set to go," replied Colonel Nichols. "But we'll need 24 or 25 C-47s at Neilson Field right away."

Within a half hour the planes were on their way from Clark to Neilson Field and Crash Project Number One was under way in a matter of minutes.

The next 48 hours are not likely to be forgotten by anybody in the 68th AACS. They were tackling a new problem and one involving a complete change in communications plans which, up until Hirohito's offer to accept the Potsdam terms, had assumed large-scale amphibious landings on Japan. Nor would it be enough merely to fly the equipment to Atsugi and then build the stations after that. This job meant that, for the first time, the planes themselves had to become self-contained high-powered operating and receiving stations.

Colonel Nichols and his staff, including Maj. Robert Green, deputy, and Maj. Glen Montgomery, engineering officer, began the fastest design job of their careers. Using scale models of transmitters, receivers, Diesel engine generators and other radio equipment, they planned specific installations for each of the radio-station planes. Meanwhile, Capt. David Hockman, personnel officer, dispatched planes to Leyte, Biak and New Guinea to round up AACS personnel. Maj. Paul Annable's supply men gathered transmitters, operating consoles and maintenance equipment, uncrated it, tested it and rushed it to the installation crews.

Nobody chalked up any sack time during the next two days and nights, but on the morning of August 13, just 42 hours after Colonel Blake's call, the AACS flying radio stations left Neilson runway on a test flight to Clark Field. Here they landed, plugged in wires, cranked up power units and were "on the air" in 41 minutes. Later, at Okinawa operating and maintenance crews ran off several dress rehearsals of the show while waiting for diplomatic and military protocol to be worked out for the formal surrender.

The flight into Atsugi on the 28th was led by Colonel Blake himself. As Major Blake he had climbed into Hickam Field's control tower on December 7, 1941, and directed those few AAF planes lucky enough to get airborne. Now, almost four years and 46 invasions later, in a control tower on the Jap mainland itself, he personally supervised the landings of the first American occupation forces.

As the radio planes landed on the Atsugi strip, they taxied to pre-arranged parking spaces. Four aircraft which contained the power units and transmitters set up shop in the middle of a Jap plane graveyard at the southeast corner of the runway. A fifth plane containing five operating consoles for positions to Okinawa, Manila, and for air-ground communication was parked nearby, while the receiver plane was pulled into place next to the operations building. Other planes carried complete VHF transmitters-receivers with RTTY equipment for duplex operation plus voice circuit, a medium-powered 4-course radio range, VHF traffic control jeep-mounted SCR 522s—and 140 men, additional equipment, weapons, fuel and rations for five days.

Within minutes after the portable "towers" were in operation, the AACS men began to set up the equipment for the permanent control tower which was to be constructed on the roof of the operations

On the air at Atsugi: flying AACS station—rolling control tower

building. By 1900 on the 29th, these communication men, most of them veterans of D-days from Moresby to Davao, had completed the job and when the C-54s started to bring in the airborne division at 0600 the following morning, AACS was ready for them. Airdrome control was so smooth that huge transports were landing, being directed down taxiways, discharging troops and becoming airborne again in 20 minutes. And with one taxiway and half a landing strip, which is all that Atsugi boasted at that time, that's plenty fast.

Bettering Our Inner Man

Fresh produce has been substituted for critical canned items in all AAF continental commands, resulting in millions of cans of food available for civilian use or shipment overseas, the Air Quartermaster revealed recently.

Central meat cutting and fat rendering plants now are operating at a large majority of AAF stations, bringing about a better utilization of meat and extensive savings. In addition, the various commands have set up traveling teams, or have individual trained technicians available, as specialists in meat cutting, pastry baking and cooking. Several such teams have been sent overseas to assist installations in effecting greater efficiency and economy.

Gardens at AAF posts have contributed food savings, although some installations have been unable to make full use of gardens due to manpower shortages. The Air Quartermaster has called attention to a farm of the 1st Air Force at Westover Field, Mass. It was started two years ago with an investment of $1,200. Today it has 700 hogs, 1,800 chickens, 700 apple trees and an extensive truck garden.

The elimination of waste has brought about remarkable savings. The work of the 1st Air Force again was cited as an example of how waste elimination can mean millions of dollars in savings. In June, 1943, the wastage of edible food per day per man was 13 ounces. By June, 1945, the wastage had been reduced to five ounces per day per man. In conjunction with its food conservation program, the AAF has not sacrificed appetizing meals for its men. Emphasis continues on attractive presentation of food and slow cookery methods.

Bookmobiles in ETO

More books, magazines and phonograph records for forces still in the European theater will be provided by headquarters of the Theater Service Forces. A number of 2½-ton trucks have been converted into bookmobiles to carry an adequate supply of reading material to troops in small and isolated detachments not otherwise served by organized libraries.

Each bookmobile will be allocated to the operating command with an initial book stock of approximately 3,500 cloth-bound books, 10 sets of council books, 10 unit sets of magazines and 50 sets of V-disc phonograph records. Council books, magazines, phonograph records and 2,500 cloth-

QUESTIONS
on Policy and Procedure

Q. May an enlisted man obtain credit for battle participation (bronze service stars) on the strength of his affidavit as outlined in AAF Letter 35-240?

A. Yes. *If an enlisted man claims additional bronze service stars other than those that may be entered on the record, an affidavit for the record containing the organizations of assignment, including dates, together with the geographical area in which the service was performed, will be furnished the decorations and awards officer. On the basis of this information, the decorations and awards officer will determine the additional stars to which an individual may be entitled by tracing assignments and service on a map of the combat zones in question and checking dates of assignment with the limiting dates of the pertinent campaigns. The same procedure will be followed by officers claiming additional credit, except that a certificate instead of an affidavit will be furnished.*

Q. May point credit be obtained for awards when the General Order number announcing the award, command designation and date of the order are not noted on the appropriate records?

A. Yes, *on the basis of certificates furnished by officers and affidavits furnished by enlisted men. However, the medal itself cannot be obtained nor will the appropriate ribbon be worn until such time as official notification is received from the theater commander or unless the General Order number, announcing the award, command designation and date of order are furnished for notification on the record. When point credit for combat awards is given by virtue of an affidavit or certificate, such a notation will be entered on the individual's record, using the statement made as the authority for the point credit and making this certificate or affidavit a part of the official record.*

Q. How will officers who are on terminal leave be paid?

A. *Payments of officers on terminal leave will be made only by the designated disbursing officer of the post, camp or station at which the officer received orders placing him on terminal leave. This action is required in order to prevent duplicate payments which may result because of the previous presentation at the last actual duty station of pay and allowance vouchers covering periods of terminal leave (Sec. IV, Finance Bulletin No. 53, Hq., ASF, 7 July 1945).*

Q. May credit for battle participation obtained under the provisions of Par. 2, AAF Letter 35-240, 23 May 1945, be used for the Adjusted Service Rating Score?

A. Yes, *providing additional credit has been determined by the decorations and awards officer.*

Q. *Is a flying officer entitled to flying pay while on terminal leave?*

A. *No. An order requiring an officer to participate regularly and frequently in aerial flights, if not sooner terminated, ceases to apply on the day prior to the day in which the officer enters a terminal leave status, since the granting of leaves in such cases contemplates no return to duty and has the effect of terminating his assignment to flight duty (C 5 AR 35-1480, 15 August 1945).*

Q. What is the status of a flying officer while on temporary duty for recuperation, rehabilitation and recovery?

A. *The office of the Fiscal Director advises that an officer who is ordered to temporary duty for the purpose of recuperation is in duty status, as distinguished from leave status, and accordingly may perform flights and receive pay.*

Q. May enlisted personnel who have received a court-martial sentence of forfeiture of pay be discharged from the service if otherwise qualified?

A. Yes. *Par. 10g, AR 35-2460, states: "Discharge operates to remit such portion of a sentence, involving forfeiture of pay, as extends beyond date of discharge, including any unexcuted part of the forfeiture."*

Q. May unit funds be used to purchase theater tickets for the members of a unit or detachment?

A. Yes, *providing each member of the unit or detachment receives one ticket or the same number of tickets and that all individuals are treated alike. The chairman of the board of directors of the Army Central Welfare Fund has concurred in this interpretation.*

PREPARED BY THE OFFICE OF THE AIR INSPECTOR

Vulture dents C-47, finds himself—

—up to his neck in airplane

undeclared war against aircraft of ATC's India-China Division. One accompanying picture shows the wings and body of a vulture outside a Douglas C-47A, after a midair collision at 7,000 feet near Calcutta. The second picture reveals how the dive-bombing bird went through the plane's metal skin, his neck and head ending between the legs of the pilot, and reaching almost to the control pedals.

What the astonished pilot said will forever be lost in the limbo of tall tales of the orient, since the crew, ferrying the plane to India, had started back to the United States before anyone at the base knew of the freak accident.

Many times before, planes of the India-China Division have collided with the big birds in the air, both over India and over the Hump while enroute to China. One copilot was killed when a vulture crashed through the windshield of his plane during a training flight, and a Liberator Express was completely wrecked when one of the birds hit the outside of the plane, just over the propeller-feathering switches, and feathered all four props at the same time. Fortunately, in this accident, the crew escaped unharmed.

Jap Underground

Just as Britain and Germany sought safety from bombing raids by going underground, Japan also resorted to a mole-like existence in a system of subterranean tunnels. One of the most extensive of these lay beneath Atsugi Airfield where initial occupation landings were made on Honshu. More than 100 entrances were found leading down to engine overhaul, propeller, instrument, electrical, hydraulic repair and machine shops, classrooms, messhalls, offices, barracks and storage rooms for aircraft parts and accessories.

Maj. Robert V. Guelich, of the AIR FORCE overseas staff, who went into Japan with the first occupation forces, has supplied the accompanying description of sample conditions he found in these underground arsenals.

Small gauge railways, electric lights, telephones, running water and air vents made living comfortable for those underground. The need for this protection from bomb and strafing attacks was found at the Atsugi Naval Airdrome which was neutralized as one of the largest land service centers in Japan. Burned out hangars and shops, wrecked airplanes and scattered engines were found by the occupation forces, yet 50 to 100 feet underground, repair and overhaul work and one airplane assembly line continued until the end of the war on a scale that would have supported several squadrons of planes indefinitely. In one system alone were found facilities for bunking and feeding 3,000 men. Other tunnels had stocks of tools and fuselage sections. Another tunnel had hospital facilities. Another was used for extensive oil storage.

Japan's war-making potential was going underground on a grand scale when the war ended. An air force assembly plant

bound books will be placed on the bookmobile before dispatch to the commands. The remaining 1,000 books will be taken from two Reference and Recreational Book Libraries (R. B. Libraries) either previously alloted or to be alloted to the command. Additional books and records should be requisitioned through regular Special Services channels.

Army civilian librarians will be assigned to commands on the basis of one librarian to each bookmobile. Enlisted personnel, including drivers, to assist the Army civilian librarian in the operation of the bookmobile will be assigned by the operating command.

Bookmobiles will be allocated only to those major commands establishing a demonstrated need for mobile library service. Requests for bookmobiles, giving number required and basis for request, will be addressed to Headquarters, Theater Service Forces, European Theater, for the attention of the Chief of Special Services. Upon approval of requests, commands will be informed concerning suitable personnel to be sent on temporary duty to Paris, France, for the purpose of signing for and obtaining vehicles.

Buzzard Kamikazes

The vultures of India still carry on their

five miles from Oya was just beginning operations and its engine component had already turned out 10 engines. Fifty engines had been produced in each of the subterranean plants at Asakawwr and Mochiniune. Many newly dug parts factories were almost completed in Kanto Plain in the Nagoya area, Akashi, Toyakma and Kanazawk. Another new assembly plant was being built near Hachioji.

Although the Japanese made much of these facilities in their home front propaganda, a conservative estimate by a Japanese air general was that full production could not have been expected before the summer of 1946.

Our Honorary 'Freemen'

Infrequently in the past, English cities have bestowed the title of "honorary freemen" on such persons as Theodore Roosevelt, Florence Nightingale, William Pitt and General Eisenhower as a mark of signal distinction.

In a day-long celebration at Cambridge after VE-day, the 300,000 men and women who have served with the United Kingdom-based 8th Air Force were awarded the title of "honorary freemen" by the famed university city.

The occasion marked the first time in history that such a large group, British or otherwise, had been so honored.

On behalf of the personnel in the command, Maj. Gen. William E. Kepner, commanding general of the 8th, accepted from Mayor George Wilding an oak case containing the parchment scroll which bestowed the honor "in recognition and grateful appreciation of the great part played by that unit in winning victory for the cause of liberty and justice in the European War . . . . and in memory of the close and happy association with Cambridge of the whole unit."

The General reciprocated by presenting the city with a scroll of appreciation. A bomb panel from "Swamp Angel," the last 8th Air Force bomber to drop its explosive load on Europe in this war, is being sent to Cambridge as a war trophy for permanent display.

An Old Score

Shot down by an AAF fighter pilot far behind Jap lines, Admiral Isoroku Yamamoto, commander in chief of the Imperial Japanese Navy, met death as he had lived his life—with punctuality. The U. S. War Department recently announced the dramatic circumstances surrounding the end of Yamamoto, famous for his boast that he would dictate peace terms from the White House.

It was the admiral's known determination to be punctual at all times that led to the formulation of plans for the successful interception of his flying inspection party. Yamamoto's plane was shot down on the morning of April 18, 1943, by Lt. Col. Thomas G. Lanphier, Jr., 29, at the exact spot where U. S. Naval Intelligence had estimated his plane would be in accordance with a secretly obtained schedule of

PLANE BONERS

Analyzed by Veteran Pilots

MARIANAS—During a flight from a forward to a rear base, the pilot of a B-29 landed at a field 70 miles from his destination because he thought he was low on fuel in one tank and was unable to transfer. The fuel transfer pump had been taken out of the airplane at the forward area for installation in a B-29 scheduled for a combat mission. The plane was refueled at the intermediate base and the pilot experienced no difficulty until he was over his home field and turning on the base leg with gear down and half flaps down. Then, No. 3 engine cut out followed almost immediately by No. 4. No attempt was made to feather these engines. Knowing he was low on gas, the pilot straightened the airplane in a futile attempt to make the engines catch again and then turned back to the field with full flaps down. As the airplane settled too fast to make the field, the pilot cut the throttles and crashed straight ahead.

Comment: It's just as important to have enough fuel, with reserve, for a 100-mile flight as for 1,000 miles.

GREENVILLE, TEXAS—On a fighter instrument mission, the pilot of a P-47 was to make a 3,000-foot take-off run but after covering 3,000 feet of runway his indicated airspeed was only 95-100 mph. Applying full throttle, the pilot continued down the 5,000-foot runway, and neared the end of the strip with airspeed of 115 mph. He pulled plane off ground, and after he retracted wheels the airspeed increased to 120 mph. The pilot then applied turbo to get more power, increasing the airspeed to 125 mph, but the plane started to drop off and the pilot belly-landed it one mile off the end of the runway.

Comment: Chalk this one up for the mechanics who did an overhaul job on the hydraulic system and re-installed the valve tank regulator, part No. 89F3840L, backwards. The plugs were badly fouled and hydraulic fluid was found in the carburetor air duct.

KANSAS CITY, KAN.—Four attempts were made to start an A-26 left engine before it finally caught. The airplane was then taxied out for take-off run and engines run-up. On take-off two-thirds of runway was used and left engine trailed black smoke, appearing to cut in and out. Sufficient altitude wasn't gained and the right prop nicked the top of a building adjacent to the field. Pilot feathered prop and the left engine carried him on out. The A-26 was flown on a right pattern around the field and the pilot came in for a landing. Gear was extended on the downwind leg, and when the plane was ready to come down, at 100 feet, the pilot tried to skid it in line with the runway. The plane stalled and crashed.

Comment: The pilot had exhausted the precious commodities—airspeed and altitude. He was killed and the A-26 reduced to rubble.

LEMOORE, CALIF.—A P-38H was being ferried to Ontario (Calif.) Army Air Field. Just as the plane became airborne, the pilot heard an explosion on left side. Manifold pressure jumped to well past 4 inches, back to 0, and then settled at 30 inches. The pilot landed aircraft and as he turned off the runway he became aware that the left engine was on fire. Emergency trucks extinguished the fire.

Comment: Examination disclosed that left engine had burst its impeller, and further investigation revealed a rag had been caught under a clamp at the hose connection in the carburetor air intake duct at the point where it joins the intercooler section. Air passing through the duct had carried the rag to the carburetor screen. The subsequent shutting off of air caused backfire. A carburetor change had been made several days prior to the accident, and the cloth had been used to fill openings to prevent accumulation of dust and foreign material. It had not been removed.

SANTA MARIA, CALIF.—In landing a P-38L hit the ground right wheel first while skidding to the right as a result of the pilot's failure to correct properly for a left crosswind. Resultant stress on right main landing gear assembly caused it to collapse. Airplane skidded to a stop on right prop, right wing and right boom.

Comment: Tricycle gear minimizes ground loop danger but undue stress imposed on landing gear when landing in a skid or slip is still dangerous. Corrections for drift should be just as precise as when landing conventional types.

PREPARED BY THE OFFICE OF FLYING SAFETY

NEW BOOKS

WAR

OUT OF CARNAGE. *A. R. Griffin.* An account of America's efforts in medicine and science to save human lives in battle. HOWELL, SOSKIN, N. Y., 1945.

OUR FIGHTING SHIPS. *M. D. Katz* and others. Pictures and descriptions of our Navy today, from battleship to motor torpedo boat. HARPER, N. Y., 1945, rev. ed.

HISTORICAL

SELECTED SPEECHES AND STATEMENTS OF GENERAL OF THE ARMY GEORGE C. MARSHALL, CHIEF OF STAFF, UNITED STATES ARMY. *G. C. Marshall.* 48 speeches delivered between October 1, 1938, and June 15, 1945. INFANTRY JOURNAL, WASHINGTON, 1945.

POSTWAR

HOW YOU CAN GET A JOB. *G. L. Gardiner.* Questions and answers for the prospective job-seeker. HARPER, N. Y., 1945.

GOVERNMENT JOBS AND HOW TO GET THEM. *S. D. Spero.* Information about 500 different kinds of work in government service. LIPPINCOTT, PHILADELPHIA, 1945.

500 POSTWAR JOBS FOR MEN. *Vocational Guidance Research.* A dictionary of occupation with information on how to choose and obtain them. DOUBLEDAY DORAN, GARDEN CITY, N. Y., 1945.

TECHNICAL

WINGS AND THE WEATHER. *A. L. Chapman* and others. A study guide in meteorology for student pilots. PITMAN, N. Y., 1945.

THE COMING AGE OF ROCKET POWER. *G. E. Pendray.* The evolution of the rocket principle from its discovery to modern wartime developments. HARPER, N. Y., 1945.

PLASTICS IN PRACTICE. *John Sasso and M. A. Brown.* Properties of plastics and fabricating methods as used commercially. MC GRAW-HILL, N. Y., 1945.

THE FUNDAMENTALS OF RADIO AND HOW THEY ARE APPLIED. *H. L. Williams.* An outline of radio theory and practice. BLAKISTON, PHILADELPHIA, 1945.

YEARBOOKS AND HANDBOOKS

THE MODEL PLANE ANNUAL, 1945. *D. C. Cooke.* A new edition of this book on the building of model airplanes. MC BRIDE, N. Y., 1945.

These books are available to AAF personnel through the AAF Field Technical Library Service, which provides for technical libraries at all major installations. For a complete list of books so available, see TECHNICAL PUBLICATIONS FOR ARMY AIR FORCES TECHNICAL LIBRARIES, Book List No. 2, March 1945 and supplements thereto. These lists are compiled by AAF Headquarters Library. Personal copies of these books may be obtained from the publishers or retail bookstores.

CROSS COUNTRY

the admiral's flight plan.

Acting on information relayed to commands in the Southwest Pacific by the late Secretary of the Navy Frank Knox, Colonel Lanphier and a group of AAF flyers in P-38's departed from Guadalcanal for their rendezvous with Yamamoto.

Riding one of his newest bombers at more than 200 miles an hour, the Admiral was accompanied by virtually his entire high command in similar aircraft. When identified by Colonel Lanphier's flight, the Admiral was right on the dot. The rendezvous had been accomplished within bare seconds of the predicted time.

Admiral Yamamoto was officially announced by the Japs as "killed in combat with the enemy." Colonel Lanphier was awarded the Navy Cross for the success of his mission.

Reason for the delay in announcing the details of Yamamoto's death came with the disclosure that Colonel Lanphier's brother, 1st Lt. Charles W. C. Lanphier, 27, a Marine Corps fighter pilot, had been a prisoner of the Japs at the time, and it was felt that any information concerning the identity of Yamamoto's destroyer might result in death of Lieutenant Lanphier at the hands of his captors.

The Dawn of Peace

I left my friend at the little cemetery in the Missouri village where he had spent his childhood. I folded the United States flag and handed it to his mother, then I hurried away.

He and I were the same age, 22, both flyers.

I had seen many men meet death in the skies over Europe, but it was always more distant, and less tangible than this. Then it was clean—flak, fire, flying parts, then nothing but the steady drone of your own engines.

Bringing his body home and facing the people who had created him was an ordeal I shall never forget. The funeral had been typical of all the sad, torturing grief that can be created out of sympathy and kindness on the part of relatives and friends in a small community.

Last night was officially the end of the war. It was the night before the funeral, and I walked down the little dirt road toward the main section of the town. The people were celebrating. They had a bonfire going and kids were throwing their straw hats into the flames. As I came to an intersection I saw a group of young girls, arms locked, walking along singing "God Bless America." I stood there, outside the bright light of the bonfire, filled with my own thoughts and reflections of a world once again at peace.

Suddenly a car drew up and a couple of fellows hauled a dummy out of the back seat and tossed it into the flames. I watched the effigy of Hirohito kindle and burn, and it brought back to me the reason I was in this little Missouri town.

About 5:30 on the morning of August 10, someone had run into the barracks and said the Japs were asking for peace. All of us had jumped out of bed and rushed for the radio. That was the last time I saw him—while we crowded around the radio in our underwear.

A half an hour later he buzzed the barracks.

He and I were the only flyers on the small emergency field, and he had gone down to the hangar and rolled out the plane. He did some snap rolls over the field at about 500 feet. He did one to the right, over the center of the field—and he didn't come out. The plane stalled. He struck the ground before he could recover. The plane was burned to ash before the firemen had soaked enough water around the body to lift him out.

I didn't tell his family how he took his life. I talked about the beautiful sunrises we have in the desert. I described the ever-changing purple mountains, and the serene beauty of the morning he went down.

The details, I left out. But they are here for you.—Capt. James C. Ray, commanding officer, Blythe (Calif.) Army Airfield.

Direct Wire

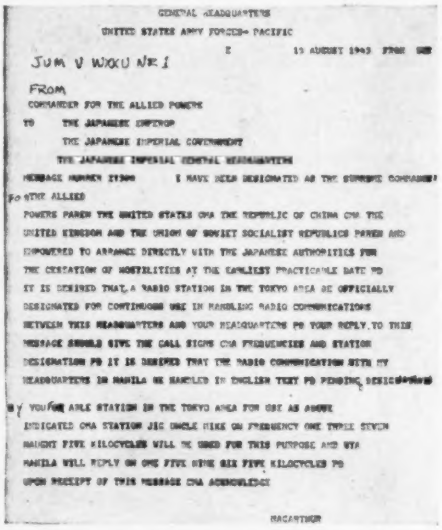
When General MacArthur wanted to send his first direct message to Emperor Hirohito following Japan's surrender, a

AIR FORCE MAGAZINE

CAPT. WM. T. LENT *"Geez! Youse boids is lucky, your fightin' days is tru!"*

problem arose as to the means of communication. If the message went through diplomatic channels at Berne, two days might be required for the transmission. The General preferred to send his message direct.

Maj. Gen. Spencer Akin, chief signal officer on General MacArthur's staff, asked Army Airways Communications System if



GENERAL HEADQUARTERS
UNITED STATES ARMY FORCES PACIFIC

15 AUGUST 1945 FROM GHQ

JUM V WXXU NR 1

FROM
COMMANDER FOR THE ALLIED POWERS
TO THE JAPANESE EMPEROR
THE JAPANESE IMPERIAL GOVERNMENT
THE JAPANESE IMPERIAL GENERAL HEADQUARTERS

MESSAGE NUMBER 27300 I HAVE BEEN DESIGNATED AS THE SUPREME COMMANDER FOR THE ALLIED POWERS FORCES OF THE UNITED STATES CHA THE REPUBLIC OF CHINA CHA THE UNITED KINGDOM AND THE UNION OF SOVIET SOCIALIST REPUBLICS HEREBY AND EMPOWERED TO ARRANGE DIRECTLY WITH THE JAPANESE AUTHORITIES FOR THE CESSATION OF HOSTILITIES AT THE EARLIEST PRACTICABLE DATE PD IT IS DESIRED THAT A RADIO STATION IN THE TOKYO AREA BE OFFICIALLY DESIGNATED FOR CONTINUOUS USE IN HANDLING RADIO COMMUNICATIONS BETWEEN THIS HEADQUARTERS AND YOUR HEADQUARTERS PD YOUR REPLY TO THIS MESSAGE SHOULD GIVE THE CALL SIGNS CHA FREQUENCIES AND STATION DESIGNATION PD IT IS DESIRED THAT THE RADIO COMMUNICATION WITH MY HEADQUARTERS IN MANILA BE HANDLED IN ENGLISH TEXT PD PENDING DESIGNATED YOUR ABLE STATION IN THE TOKYO AREA FOR USE AS ABOVE INDICATED CHA STATION JIC UNCLE MIKE ON FREQUENCY ONE THREE SEVEN EIGHT FIVE KILOCYCLES WILL BE USED FOR THIS PURPOSE AND MY MANILA WILL REPLY ON ONE FIVE NINE SIX FIVE KILOCYCLES PD UPON RECEIPT OF THIS MESSAGE CHA ACKNOWLEDGE

MACARTHUR

MacArthur to the Emperor

it had a high-powered transmitter which could reach Japan.

"If the message is ready," replied Col. R. G. Nichols, commanding officer of the 68th AACS Group, "put it on GHQ teletype to WXXU and we'll send it out from there."

WXXU is the AAF Weather station which re-broadcasts to the entire Southwest Pacific area weather information received from other AACS stations all over the Pacific. In the months before V-J this station had rather contemptuously been sending its weather information in the clear on the assumption that eliminating the necessity of elaborate coding and decoding more than outweighed any possible use the Japs were in position to make of weather data. It was a well known fact that the Japs had been copying this free weather map of the Pacific every day. And this fact made it a sure bet that the Japs would pick up General MacArthur's message to the Emperor in the same fashion.

The message directed that the Japanese allocate one of their radio frequencies for direct communication with Allied Supreme Headquarters. Specifically he suggested that Jap station JUM, which had been heard clearly in Manila, would be satisfactory.

Signalling Jap call-signs—stations which had deliberately jammed our own frequencies in the past—the AACS station put the message on the air and repeated it at intervals of two hours. Then it sat by to monitor JUM. Soon the Jap reply was received on the frequency that General MacArthur had requested, and direct two-way communication was established between the two headquarters.

New Films Available

The following AAF training and special films have been completed and initial distribution has been made. Short-term loan prints may be obtained from area Air Technical Service Command control film libraries: TF 1-3460, "Aerial Navigation—Map Reading"; TF 1-3467, "P-47 Combat Operations"; TF 1-3468, "The Gun Camera Program for Flexible Gunnery Training"; TF 1-3469, "Fixed Gunnery Pursuit Curve Firing—Part I"; TF 1-3471, "Preparation and Loading for Air Evacuation"; TF 1-3473, "B-24's Get Back"; TF 1-3746, "B-29—Idle Adjustment of the Ceco Carburetor"; TF 1-3753, "Gasoline Injection System—R-3350 Engine"; TF 1-3754, "B-29—Ground Control"; TF 1-3766, "Hack Saw Blades and How to Use Them"; TF 1-3774, "Radar Weather"; SFP 151, "Wings for This Man"; SFP 174, "China Crisis"; SFP 175, "Air Siege"; SFP 187, "Victory in the Air" and SFP 191, "The Fragmentation Bomb".

The following AAF films have been completed and initial distribution to libraries will be made in the near future: TF 1-3459, "The SCS-51 Instrument Approach System"; TF 1-3472, "Gunnery in the B-29—Introduction to the B-29"; TF 1-3473, "Gunnery in the B-29—Operational Checks"; TF 1-3476, "GSAP Errors"; TF 1-3477, "Airborne Radar Gunnery"; TF 1-3481, "AN/APQ-23 — Radar Navigation and Bombing Procedures"; TF 1-3483, "Safety in Air Maintenance Depots"; TF 1-3748, "B-29—Determining Weight and Balance"; TF 1-3752, "B-29—Electrical Sources"; TF 1-3768, "Double Wasp Water Injection System" and SFP 205, "Para Demo Bombing, Fifth Air Force."

Wilbie's Woes

The end of the war meant nothing to Pvt. Wilbie Hoitz. He is still backsliding his mistaken way as a bulletin board example of what not to do on the ground for the AAF — or yourself. Wilbie is the cartoon handy man of the Ground Safety Division, AC/AS, 1, and his antics have been plastered on AAF walls from the Pentagon Building to Chungking.

Wilbie was introduced, poster fashion, in February of this year as a part of the Ground Safety Division's program, and his exemplary warnings have contributed in no small way to the lowering of the AAF's ground accident rate. The character is a mental creation of Maj. Campbell Bradt, and he was put to work under the pen of William G. Day, commercial artist, who has been in civilian service for the AAF since January, 1942.

Shepherds of Southernknowe

In the rugged hill country separating England and Scotland, Col. Eugene A. Romig, representing the 8th Air Force, and Sir James Ross, of the British Air Ministry, recently honored the shepherds of Southernknowe for their part in rescuing British and American airmen who had crashed in the mountains of Cheviot during the war. These shepherds, only inhabitants of the lonely Cheviot area, are credited with saving many lives of airmen who crashed or were forced down in bad weather.

On one occasion in December, 1944, Shepherds John Dagg and Frank Moscrop, went out in a blinding snowstorm and in almost impossible conditions to rescue four or six Americans whose B-17 had crashed. For this act the shepherds were presented with an 8th Air Force scroll and the British Empire Medal. Dagg's collie dog, Shelia, who found one of the injured airmen more than 150 yards from the wreckage, was presented with the Dickin Medal to become the first civilian dog to receive this award.

PARACHUTES

LOST

42-112494E	42-431291A	42-704972D
42-187934D	42-561023C	42-707256D
42-269018A	42-661775B	

Return to field indicated by letter after number as keyed below

A—Coffeyville Army Air Field, Kan.
B—Lockbourne Army Air Base, Columbus 17, Ohio
C—WFTC, Orange County Army Air Field, Santa Ana, Calif.
D—Luke Field, Phoenix, Ariz.
E—Midland Army Air Field, Texas

HOW SHARP ARE YOU?

QUESTIONS

1. Excluding the cue ball, how many balls are visible on the table?
2. How many players are holding cue sticks?
3. Which side (facing reader) of the tally string shows the highest score?
4. How many pieces of cue chalk can be seen?
5. How many players are chalking their cues?
6. How many men are holding cigarettes?
7. Where is the ball rack?
8. Is the window open or closed?
9. Two of the Soviet players are wearing leather jackets. True? False?
10. Is the American officer's insignia of rank visible?

ANSWERS ON PAGE 46

BATTLE HONORS IN THE PACIFIC

From Port Moresby to Tokyo—traced in Distinguished Unit Citations

ILLUSTRATED BY S/SGT. ED COLLINS

The latest Distinguished Unit Citations to his organizations in the Southwest Pacific, awarded by General George C. Kenney, commanding general of the Far East Air Forces, are eloquent testimony to the effectiveness and heroism that figured in the U. S. air campaign in that theater. The awards were made "in the name of the President as public evidence of deserved honor and distinction."

Here AIR FORCE *publishes brief summaries of the actions covered by these citations. Except for a single citation to the 307th Bombardment Group (H) in August of 1944, they were the first unit awards made in the Southwest Pacific for two years. In most cases the citations acknowledge the contribution of ground echelons in the combat achievements.*

The Distinguished Unit Citation is an Army award and should not be confused with the Navy's Presidential Unit Citation. Both are awarded in the name of the President, but they are distinguished by separate badges. The Army's is the familiar dark blue bordered in gold. When a citation is confirmed by War Department General Orders, all personnel assigned to the organization on the occasion or during the period for which the citation was made are entitled to wear the Distinguished Unit Citation badge as a permanent part of the uniform.

317th Troop Carrier Group, 5th Air Force

Strong enemy ground forces had penetrated into the Wau-Bulolo Valley, New Guinea, in an effort to capture the important Wau Airdrome, which was garrisoned by an Allied force too small to repulse the invaders. Planes of the 317th Troop Carrier Group and the 374th Troop Carrier Group made an unprecedented series of air movements to save the airfield, carrying Allied troops, ammunition, light artillery and supplies over the hazardous Owen Stanley range until late in the afternoon when treacherous weather would ordinarily have stopped aerial operations. With the loss of only three aircraft, these troop carrier groups flew a total of 948,000 pounds of personnel and material into Wau.—January 30—February 1, 1943.

374th Troop Carrier Group, Far East Air Service Command

Same citation as for 317th Troop Carrier Group.—January 30—February 1, 1943.

40th Fighter Squadron, 5th Air Force

In a fierce battle near Wau Airdrome, New Guinea, this squadron distinguished itself by destroying 12 enemy aircraft with an additional five probables in a 25-minute action. The 40th squadron did not lose a single airplane.—February 6, 1943.

43rd Bombardment Group (H), 5th Air Force

In the Battle of the Bismarck Sea, B-17s of the 43rd group, operating out of Port Moresby, flew a total of 73 sorties in three days to help annihilate a convoy carrying reinforcements to the Jap base at Lae, New Guinea. In repelling hostile aircraft, often while voluntarily covering medium and light bomb units, this group shot down at least 45 Jap fighters and probably destroyed 16 others. The complete destruction of the entire convoy was the most decisive single

blow at Jap operations in Southwest Pacific up to that time.—March 2, 3 & 4, 1943.

39th Fighter Squadron, 5th Air Force

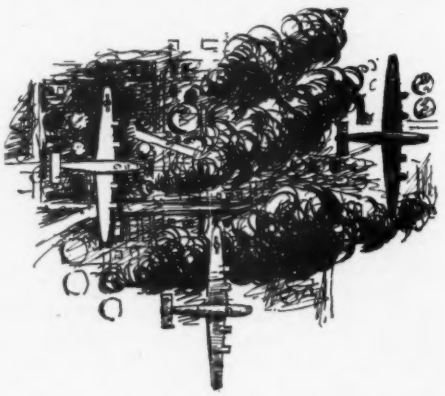
In destroying 17 enemy aircraft during a three-day period in Huon Gulf, New Guinea, the 39th Squadron contributed substantially to the blasting of a large convoy in the Battle of the Bismarck Sea. The P-38s of this squadron scattered an enemy formation covering the convoy so effectively that bombing runs on March 3 were made at masthead level with no opposition from the air.—March 2-4, 1943.

8th Fighter Squadron, 5th Air Force

Fighting against a far superior enemy force, this squadron destroyed 14 enemy aircraft in a single operation. It was such a severe blow to the Japs that from May until September they did not chance another attack on Oro Bay area in New Guinea.—May 14, 1943.

380th Bombardment Group (H), 5th Air Force

To reach the refinery area at Balikpapan, Borneo, B-24s of this group had to fly over hundreds of miles of open sea, past the heavily defended island of Timor and the Macassar area, and past listening posts for enemy fighter strips. Each of the missions involved at least 16 hours of flying, 10 at night, and six during daylight hours. Many of the bombers were damaged by shell fragments and enemy fighters, and some of



the B-24s flew the entire trip back home on three engines. As a result of the strikes, the flow of oil and gasoline to Jap tactical bases was seriously curtailed.—August 13-15-17, 1943.

41st Fighter Squadron, 5th Air Force

Disregarding the numerical superiority of the enemy, this squadron dived on Jap bombers from an altitude of 12,000 feet and pressed an attack which destroyed nine bombers and two fighters. The enemy, attempting to attack the new Tsili Tsili airdrome, was able to drop only two bombs with no damage resulting.—August 15, 1943.

3rd Bombardment Group (L), 5th Air Force

Twenty-two B-25s of this organization, then a medium bomb group, participated in a major blow against airdromes at Wewak, where the Japs had concentrated more than 200 aircraft. They attacked at treetop level in the face of intense antiaircraft fire and plastered the Boram and Wewak airdromes with strafing fire and parafrag clusters. At Boram, 25 enemy planes were destroyed on the ground and 30 were severely damaged. At Wewak all bombs fell in the target area and nearly every airplane on the field was destroyed. As a result of this mission, the enemy was compelled to abandon his plan of maintaining an effective air striking force south of Hollandia.—August 17, 1943.

475th Fighter Group, 5th Air Force

In Wewak operations, this group maintained formation throughout a heavy enemy air attack, defending its own planes and protecting a bomber formation, destroying 38 Jap planes and getting six other probables. The B-25 formation was covered so effectively that it was able to make unmolested strafing runs which destroyed 178 enemy aircraft on the ground. This operation greatly weakened the enemy positions and hastened the defeat of the Japanese in that area.—August 18 & 21, 1943.

80th Fighter Squadron, 5th Air Force

The 80th, forming part of an escort for B24s, fought off the attacks of 30 to 35 Japanese fighters at Wewak, destroying nine Jap planes and probably one other. This was August 20. The following day, 16 P-38s of this squadron shot down 11 enemy planes and thus thwarted an interception of the B-25s for which they were providing close cover. On August 29, fighters of this squadron were recalled from an escort mission because of bad weather, but two pilots who failed to receive the message went into the target area as sole cover for a B-24 attack on Wewak and shot down two enemy fighters. On September 2, the squadron destroyed six planes, and September 13 and 15 got a total of 12 more. During this period the pilots of the 80th shot down 40 enemy aircraft.—August 20—September 15, 1943.

90th Bombardment Group (H), 5th Air Force

The 90th carried out strikes on the Jap air stronghold at Wewak. Its airmen battled their way through Jap fighter opposition and heavy antiaircraft fire. They met 149 Jap aircraft in combat and destroyed 46 of them with an additional 11 probables. They destroyed 22 on the ground and damaged many more that could not be counted. An ammunition dump was blasted and at least eight fires were started in the fuel stores and supply dumps.—September 13 & 15, 1943.

475th Fighter Group, 5th Air Force

In action at Oro Bay, P-38s of this group destroyed a formation of 22 Jap dive bombers and allowed only seven protecting fighters to escape. Pursuing the remnants almost to New Britain, they met another formation of 50 enemy fighters, which turned about and avoided combat. In destroying 22 dive bombers and 15 fighters and damaging other aircraft, this group prevented a serious loss to vital American shipping. On October 17, two squadrons of this group intercepted 30 enemy fighters approaching Oro Bay and scattered the formation, bagging at least 19 Jap fighters. This brought the total for two days of combat to 56 enemy planes destroyed and eight probably destroyed.—October 15 & 17, 1943.

500th Bombardment Squadron (M), 5th Air Force

As part of a coordinated assault on targets in the Rabaul area, nine B-25s of the 500th Bomb Squadron set out to bomb and strafe targets between Vunapope and Lesson Point. Only six got through to the

target. At treetop level, they thoroughly strafed the camp and supply areas, and undaunted by heavy antiaircraft fire, they crossed the shoreline and overturned a 5,000-ton freighter with two 1,000-pounders. Then they demolished a corvette and a 6,000-ton freighter. At this point they were attacked by 40 to 50 Jap fighters coming in from all directions. The running battle lasted an hour and 10 minutes, resulting in the destruction of 14 Jap planes and many other probables, and with the loss of only two B-25s.—October 18, 1943.

9th Fighter Squadron, 5th Air Force

In a two-week period, flying missions through severe tropical weather over 300 miles of water which was largely Jap-controlled, this squadron destroyed 24 enemy planes and probably destroyed seven more, in addition to providing effective cover for our bombers. These strikes contributed greatly to the neutralization of the enemy in New Britain.—October 23—November 7, 1943.

80th Fighter Squadron, 5th Air Force

In destroying at least 26 enemy aircraft and probably seven others in a two-week period, the 80th materially aided in the neutralization of Rabaul. This series of missions involved the longest fighter flights up to that time in the SWPA and demanded exceptional courage and skill on the part of pilots.—October 24—November 7, 1943.

345th Bombardment Group (M), 5th Air Force

Thirty-seven B-25s of this group led a bomber attack against ground fire installations protecting Simpson Harbor, Rabaul. They effectively bombed and strafed antiaircraft and machine gun positions, shore installations, barracks, and supplies. Two freighters unloading at the docks were set on fire, and the town was covered with white phosphorous smoke bombs which screened attacks made by other units against shipping in the harbor.—November 2, 1943.

22nd Bombardment Group (H), 5th Air Force

On November 5, the 22nd group, then consisting of one squadron of B-26s and three squadrons of B-25s based at Dobodura, New Guinea, was designated to wipe out Japanese positions holding up Australian ground troops in Faria River Valley. Cloud cover over the target forced the formation down to a dangerously low altitude, but the squadrons chose to press their attack. They accurately pinpointed over 23 tons of bombs, and every known enemy position in the area was destroyed, enabling the Australian troops to advance and drive out the remaining Japanese.—November 5, 1943.

348th Fighter Group, 5th Air Force

The gallantry of its pilots, many of them inexperienced in combat flying, enabled the 348th Fighter Group in a period of 16 days to destroy 79 enemy aircraft in the air with a loss of only two of its own, a ratio of almost 40 to 1. The combat performance of this organization made an important contribution to the neutralization of the enemy in the Bismarck Archipelago.—December 16-31, 1943.

38th Bombardment Group (M), 5th Air Force

Making their target runs on the western tip of New Britain at the dangerously low altitude of 50 to 100 feet, B-25s of this group accurately bombed and strafed the Cape Gloucester, New Britain, airdromes, enemy pillboxes, barges, supply dumps and personnel areas from Dorf Point to Cape

Raoult. American troops moving into the area later found over 1,000 enemy troops had been killed and most of their equipment and supplies destroyed by the treetop bombing and strafing. Thus the enemy was so effectively neutralized that our own ground losses were negligible.—December 24-26, 1943.

35th and 36th Fighter Squadrons, 5th Air Force

In an operation at Cape Gloucester, New Britain, these squadrons were attacked by 75 enemy aircraft, a numerically superior force. Nevertheless, the 35th and 36th destroyed 21 Japanese aircraft and probably destroyed five others, all the while continuing to press their attacks. After more than one-third of their force was destroyed, the Jap units abandoned the mission and retired from the convoy area. The aggressive courage of the pilots of the 35th and 36th squadrons saved many lives and much vitally needed equipment and dealt a crippling blow to enemy airpower, aiding materially in the occupation of Cape Gloucester.—December 26, 1943.

35th Fighter Squadron, 5th Air Force

This squadron destroyed 18 enemy aircraft while protecting a U. S. convoy carrying supplies to the newly won beach-

head at Saidor. Remaining enemy fighters retired from the engagement with several P-40s in close pursuit. During the chase, one of the 35th's fighters dived into the mist on an enemy formation of nine dive bombers, shot one of them down and scattered the others. The daring of these pilots, many of whom had had no previous combat experience, inflicted severe loss to the Jap air strength and also prevented a large-scale attack on troops and supplies needed to

strengthen a newly won and vitally important beachhead.—January 16, 1944.

6th Reconnaissance Group, 5th Air Force

As part of the pre-invasion mapping coverage needed for the Leyte-Samar-Dinagat area, this group was directed to complete first priority photography on Leyte within a week. The 1,530-mile round trip, into an area where the probability of enemy interception was great, was made without fighter protection. The task was completed September 25 despite the necessity of flying through extremely hazardous weather fronts. —September 18-25, 1944.

499th Bombardment Squadron (M), 5th Air Force

This squadron, providing air cooperation for the strategically important landings at Los Negros, Admiralty Islands, encountered such turbulent weather that its formation would have been justified in turning back. Realizing, however, that the success of the landing depended upon effective air cover, the crews continued to the target, relying entirely upon instruments. Due to expert piloting and navigation, it was the only squadron to get through and prepare the way for the ground assault.—February 29, 1944.

5th Bombardment Group (H), 13th Air Force

Braving intense antiaircraft fire, navigating and bombing with superior accuracy, the 5th group in less than a month was largely responsible for reducing a base upon which the Japs had depended for an uninterrupted flow of supplies and aircraft for the strategic defense of Truk, Palau and the western Caroline and Marianas Islands.—April 18—May 15, 1944.

380th Bombardment Group (H), 5th Air Force

This group performed outstanding service in keeping enemy airstrips on Noemfoor Island permanently unusable and preventing the flow of Jap replacement aircraft and crews to the area of operations. The group flew repeated missions into the target area, each flight requiring 12 hours in the air to accomplish a round trip of 1,800 miles over enemy-held territory.—April 20—May 17, 1944.

17th Reconnaissance Squadron, 5th Air Force

Ten B-25s of the 17th Squadron were ordered to intercept and destroy a Japanese naval task force which was reported carrying reinforcements to the island of Biak, Dutch New Guinea. The exact size of the force was undetermined. Contacting the enemy force off Waigeo Island north of Dutch New Guinea, the 10 crews of the 17th Reconnaissance Squadron discovered that it was composed of four destroyers and two cruisers protected by 10 aircraft. Although an attack on six heavily armed warships by a single squadron was almost suicidal, the B-25s descended to minimum altitude, and dropped 500-pound and 1,000-pound bombs, destroying or sinking all four of the destroyers and forcing the cruisers to turn back. Three B-25s were lost and five were seriously damaged.—June 8, 1944.

5th Bombardment Group (H), 13th Air Force

To reach their target at heavily-defended Balikpapan, Liberators of this group had to fly a round trip of 2,610 miles entirely over water and enemy-held territory, the longest daylight mass formation bombing mission ever undertaken by B-24s. The normal ammunition supply had been cut in half, and the bomb and fuel load was the heaviest ever carried by B-24s in the Southwest Pacific area, 12,000 to 13,000 pounds greater than the recommended load for B-24s. Attacked for more than an hour by about 30 enemy fighters and facing heavy antiaircraft fire more intense and accurate than any they had ever encountered, the B-24s nevertheless dropped their bombs with excellent results.—September 30, 1944.

307th Bombardment Group (H), 13th Air Force

En route to press attacks on Balikpapan, this group encountered enemy interception even heavier and more aggressive than had been anticipated. For an hour and 15 minutes, 30 to 40 Jap aircraft from a new airstrip attacked the formation. Losing seven Liberators, the group fought through the fighter opposition and terrific antiaircraft fire to bomb the refineries effectively.—October 3, 1944.

38th Bombardment Group (M), 5th Air Force

November 10, 30 B-25s of the 38th Group attacked a Jap convoy attempting to land reinforcements on Leyte. It was one of the largest and most strongly defended convoys ever to be attacked by a single group in SWPA. Flying in the face of murderous antiaircraft fire from the freighters as well as the destroyers, the B-25s attacked at masthead level. They sank three destroyers, one destroyer escort, and at least five freighter-transports. Three transports and one destroyer were severely damaged. Five B-25s were shot down and two were forced to land on the water. The enemy attempt to land more ground troops was crushed. —November 10, 1944.

25th Liaison Squadron, 13th Air Force

Flying light, unarmored L-5 airplanes, this squadron dropped food, ammunition, medicine and other supplies to units of the 11th Airborne Division, cut off from other supply sources on Leyte, and pioneered in the technique of establishing and servicing advance field hospitals with small planes. Operating without fighter protection, these aircraft were constantly subjected to enemy ground fire, which damaged the majority of the L-5s used in these missions.—December 10-25, 1944.

317th Troop Carrier Group, 5th Air Force

In the recapture of Corregidor, 51 of the group's C-47s dropped a total of 1,021 paratroopers and 151 bundles of supplies in a period of one hour on the morning of February 16. In nearly an hour and a half on the afternoon of the same day, 50 C-47s dropped 978 paratroopers and 159 bundles. On the morning of February 17, 43 C-47s

dropped 197 bundles in less than an hour. On the afternoon of February 17, during a period of nearly two and a half hours, 785 bundles of supplies were dropped by 33 C-47s. In all, approximately 563 passes had to be made to put the 1,999 paratroopers and 1,292 bundles on Corregidor.—February 16-17, 1945.

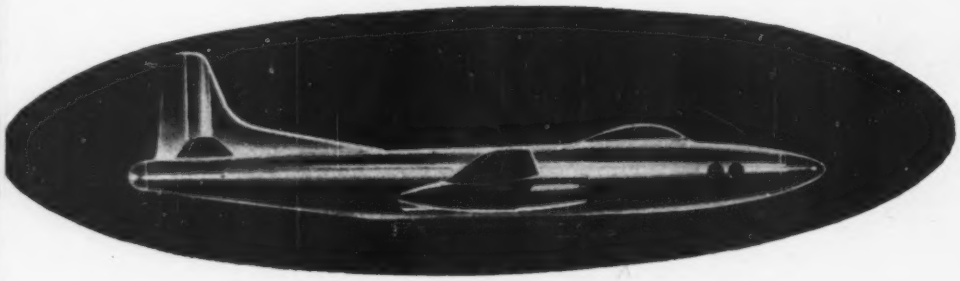
312th Bombardment Group (L), 5th Air Force

During this period, the A-20s of this group, based in the Philippines, completed eight strikes on Formosa against Japanese plants producing butanol, an important component of aviation gasoline. Because of the extreme distance, no A-20s had previously attempted raids on these installations. Attacking at roof-top level, the light bombers left each plant in flames.—March 25—April 4, 1945. ☆

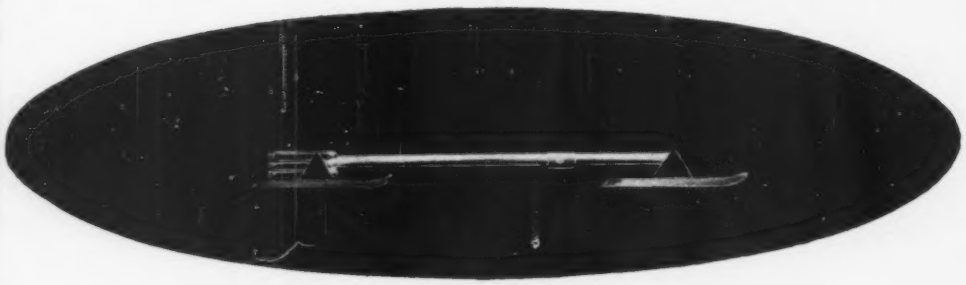
technique

Development, Maintenance and Supply of Aircraft and Equipment

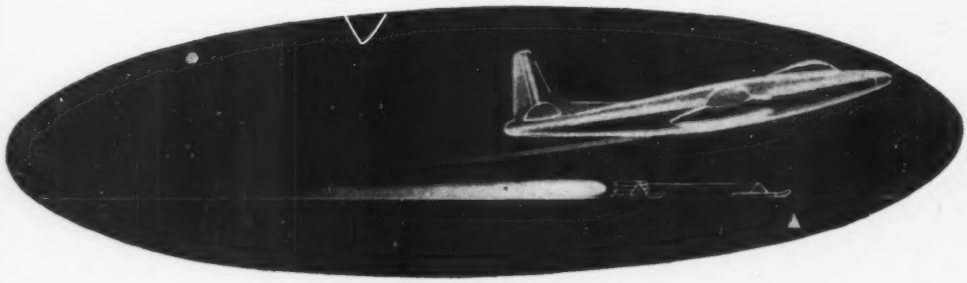
Radio-Controlled Target Plane – Page 42



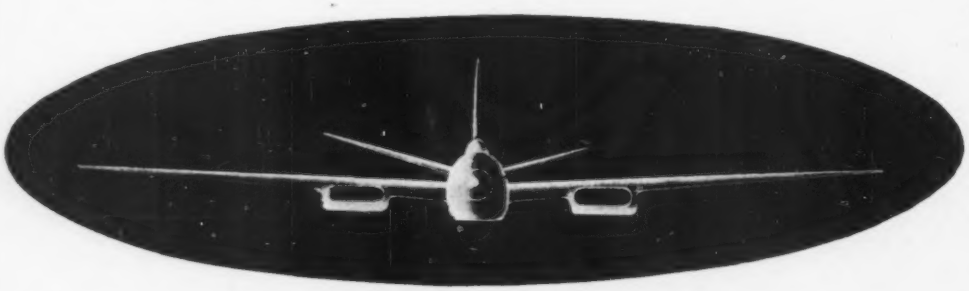
With plane fully loaded, rocket sled is put in place for take-off.



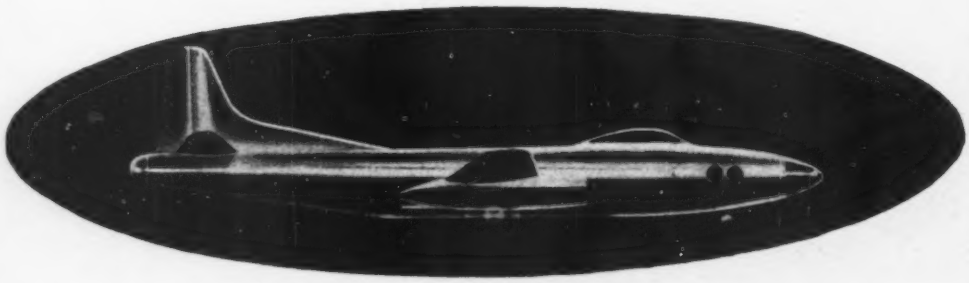
Rocket sled is of light magnesium construction, skims along field.



Take-off is accomplished in run of 500 feet at a speed of 150 mph.



Having no landing gear, the plane makes belly landing on sod field.



Aircraft has utility wheels, however, to facilitate ground handling.

Rocket Sleds for Take-Off

Jet aircraft, which do not have propeller clearance problems, take off and land from short, stubby gear. These wheels, although conventional in design, may soon be replaced, on some airplane types, by rocket sleds that will enable take-off in the manner of a robomb launching, and permit the craft to make a landing by skidding across a sod field on its flattened belly and special sled-nosed nacelles.

For taxiing, the plane will carry a retractable "jacking" gear which can be lowered to the ground to raise the fuselage high enough so that the "jep" craft may taxi on its own wheels. To take off, the plane taxis over a rocket sled, retracts its jacking gear so that the fuselage rests on the launching device, and after engine warm-up, is hurtled across the field and into the air by the rocket-powered sled. Unlike the launching car of the robomb, however, the sled will not rise with the plane, but will remain on the ground.

The new system of take-off and touch-down, in addition to saving hundreds of pounds of weight, would reduce the size of the gear so that more room would be available for fuel and payload. Also, take-off distances would be considerably shortened through the elimination of the drag of standard gear. Such an installation, however, could not be used for propeller-driven planes, which must still rely on conventional landing wheels.

Fuel Injection for B-29s

Instead of mixing gasoline and air in a conventional engine's fuel-air chamber, a new method is being adopted for B-29 engines to squirt gasoline directly into each cylinder of the R-3350 engine and thus improve cooling, reduce fuel consumption and minimize fire hazards.

The system comprises a fuel-air metering control device, two injection pumps—one for each bank of nine cylinders—feedlines and nozzles. The control meter feeds a measured amount of gasoline and air through separate channels to the cylinder. The high-pressure injection pumps then force the gasoline through small-diameter tubing to each cylinder, and a nozzle at the end of each tube sprays the fuel inside the cylinder to permit even burning. Simultaneously, air flows through the induction system into the cylinder air intake and mixes with the gasoline to form a combustible ratio.

In field tests, the system has proved that maximum cooling may be obtained

with reduced opening of cowl flaps, and that a cleaner mixture of gasoline may be used because of more equal distribution. As applied to combat, these advantages may well mean increased horsepower, smoother engine performance and greater range.

Portable-by-Air Workshop

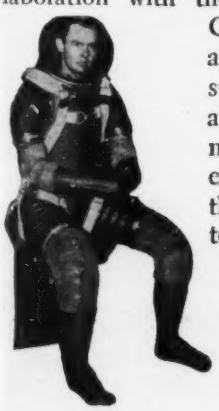
Lightweight, collapsible workshops that could be transported by air and set up at advance bases were used by the AAF for the adjustment and repair of bombsights and computing gunsights. Equipped with precision tools, the fireproof, temperature-controlled shop enabled instrument specialists to perform fourth echelon maintenance on the spot, saving the time that would be required to send the sights to depots in rear areas.

Interior view of lightweight, airborne workshops set up at advanced bases for the repair of bombsights and computing sights.

Flexible boards made of compressed, resin-treated glass fibers were employed as insulation to help maintain a humidity-free atmosphere inside the workroom.

Pressure Suit for Airmen

For emergency use in pressurized cabins at high altitudes, the Aero Medical Laboratory at Wright Field, in collaboration with the B. F. Goodrich Co., has developed an air-tight pressure suit which will enable a man to breathe normal air in the event of failure of the pressurizing system of the cabin.



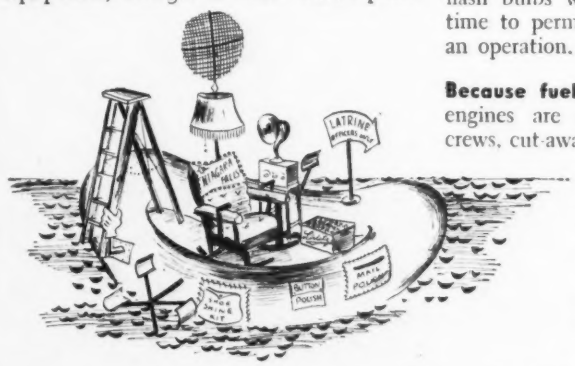
Simulating flight position, man wears new pressure suit. Pilot is still able to move with ease.

tech topics . . . about aircraft and equipment

In present models of the A-26 the pilot's seat has been raised five inches and the cockpit redesigned to give better vision. Changes improve sightline over the engine nacelles and help facilitate formation flying. . . . Armament modification in the Invaders includes three .50s in each wing as standard equipment to replace temporary package gun installations. With eight machine guns in the nose, six in the wings and the four guns of its two remotely controlled turrets the A-26 now has an 18-gun forward fire. In addition, it carries 14 rocket projectiles. . . . On models that don't have the 75-mm cannon, dual controls have been included to give the pilot an assistant on long-range missions. . . . The new attack bomber also has beefed-up nose gear struts to prevent folding up during taxiing and rough ground handling.

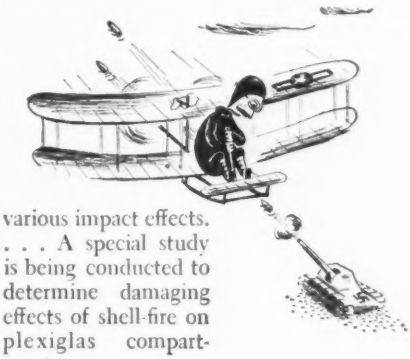
A portable meteorological station which consists of all the ground meteorological instruments required for operating a small weather station has been developed for use in advanced areas. Packaged in large crates which can be converted into work benches, the equipment can be shipped by truck, airplane or glider. It is ruggedly built and can be dropped by parachute.

These modifications are being made to the Type A-3 life raft to increase its worthiness: a ladder with hand-held extension extending from one side of the raft to the other; sewing of all auxiliary kits and pouches to the raft as well as rubber-cementing to prevent loss of emergency equipment; changes in water ballast pockets, oar blocks and righting handles to make the raft more sea-worthy and controllable. . . . A new radar device designed for installation in all life rafts automatically "locates" the rafts at sea for searching fliers.



To overcome odorous air in ambulance planes which has been known to limit crew efficiency, engineers have developed a small purifier that deodorizes blankets and cabin air. Consisting of a small canister of activated carbon, a hose attachment and a small 27-volt motor, the unit, which operates on the plane's electrical system, weighs less than 2 pounds and is placed under the blankets at the feet of the wounded. It sucks about 10 cubic feet of the sub-blanket air per minute through a purifier and sends it fresh and pure into the cabin with no draft effect on the patient. . . . With minor modifications the deodorizer can be used in a crowded hospital ward.

Latest machine gun for aircraft installations fires a bullet that is larger than a 20-mm cannon shell. Having very high muzzle velocity, the weapon can fire 600 rounds per minute. . . . Tests are being run using German guns and ammunition fired against obsolete U. S. planes to study various impact effects. . . . A special study is being conducted to determine damaging effects of shell-fire on plexiglas compartments.



A small camera which uses "Bantam" roll film has been fitted with a special "surgiscope" to permit photographing open wounds. Inside the "surgiscope" or jacket in a sealed compartment are eight flash bulbs which can be fired one at a time to permit making a picture-series of an operation.

Because fuel injection systems for B-29 engines are new to most Superfortress crews, cut-away models have been designed for teaching the principles of operation, adjustment and maintenance of these systems. The working models will soon be standardized for distribution to various training units.

One B-24K airplane has a completely smooth molded plexiglas nose which eliminates complex framework familiar to conventional models and permits increased streamlining and improved vision. The same airplane has a large single rudder and the combination nose and tail arrangement increases both speed and stability.

A new dual-purpose camera that uses 70-mm film and has high-speed shutters and an extremely fast cycling rate is under construction. The camera's high-speed characteristics and the shutter range of 1/500 to 1/2000th will make it ideal for fast-flying photo ships.

The suit is a form-fitting garment blown up by a compressor unit to which it is attached by a long hose. Metal joints permit flexibility at the elbows, shoulders and knees, and a transparent "goldfish bowl" covers the head like a diver's helmet.

Under pressure, the suit will restrict its wearer to an extent, but he will be able to operate the controls normally or pull the ripcord on a parachute if bail-out becomes necessary.

C-74 Super Skymaster

Shipment of heavy freight by air has been facilitated considerably by the production of the Douglas C-74, a four-engine aerial cargo carrier half again the size of our largest in-service transport, which is capable of flying from New York to Los Angeles with 20 tons of freight—twice the bomb load of a B-29.

Loading and unloading methods feature two electric hoists, one of which lifts cargo up through a bottom door like a freight elevator, and another which hoists equipment through a side-door through the use of a boom arrangement. By means of an overhead conveyor, a 15,000-pound piece of freight can be run along the full length of the cargo compartment on two rails and placed in its best position for efficient balancing. No matter where crates are stowed, however, the C-74 maintains stability on its tricycle landing gear and does not tip back on its tail as other planes have been known to do. Moreover, the tri-gear has a steerable nose wheel which enables the pilot to maneuver the airplane on the ground as he would control an automobile.

A crew of five is required to operate the big plane—pilot, copilot, radioman, navigator and flight engineer—while additional accommodations are available for a relief crew so that personnel may work in shifts on long hops. Instead of the forward window arrangement for the pilots, there are two "bug-eyes," resembling a pair of bubble canopies mounted in parallel, which provide increased visibility for ground handling and improve the craft's streamlining. Below and to the rear of the cockpit are the crew's quarters, offering full-length bunks, a small galley and a private washroom.

Power for the plane comes from four P&W 4360 engines, each capable of developing 3,000 hp at take-off. All nacelles are interchangeable and a complete engine change can be accomplished in less than an hour. A tunnel along the leading edge of the wing permits a man to crawl into each of the big engine housings and make minor repairs in flight, while heating units in the wing ward off ice formations.

The C-74's range is estimated at twice that of existing transports, making a hop from New York to Moscow a routine non-stop operation. Since the cabin is not pressurized, altitude is maintained at between 10,000 and 15,000 feet, and speed is estimated at around 300 mph.

The C-74, Super Skymaster, (below) is largest carrier plane in service. View at right shows large space for storage and overhead rail.

Rapid Cargo Unloading

A 4,000-pound cargo could be dropped from a C-47 in about 60 seconds, using a conveyor belt system that permitted the full load to pass out over the drop point in a single pass, thus allowing the unarmed transport to make a quick getaway.

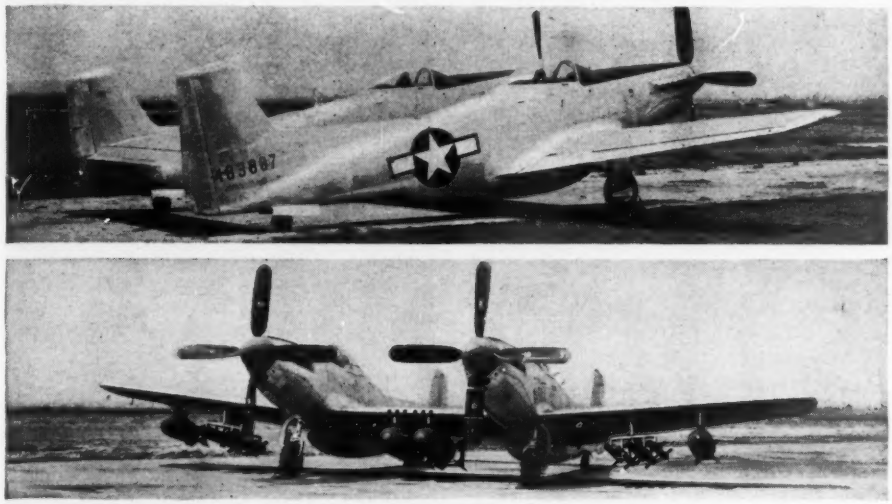
A factory-style conveyor belt was driven by a small electric motor which took juice from the plane's power system. Extending from behind the pilot's compartment to the rear door of the plane, the belt ran at the rate of about six feet per second on heavy rollers which kept it from buckling when heavy cargo containers were placed on it. At the door, a roller-bearing chute launched the packages into the air where they parachuted down.

With cargo door open, moving belt conveys airborne supply packages to a roller chute which rapidly ejects them into airstream.

XP-82—Twin-Fuselage Mustang

At the time that the AAF was seeking a long-range fighter to escort B-29s over Tokyo, one of North American Aviation's engineers suggested that two P-51H fuselages be placed on a single wing in order to obtain a two-place fighter with a great internal gas capacity plus high performance at top speed. Today, that plane—the XP-82—is in the air as a new design, with the two fuselages being mounted in parallel on a wing one-fourth larger than that of the Mustang alone, with the aft portion of each fuselage being lengthened by three feet, and with a large stabilizer giving the craft a twin-boom effect. The dorsal fin of each fuselage has also been enlarged, but the retractable landing gear has not been changed.

The XP-82 is an extremely versatile design that can be used as a night fighter, an attack plane, a long-range



Two P-51 fuselages on a single wing from the AAF's new long-range fighter plane, the XP-82. Fork tail and double cockpit arrangement are features, as well as added firepower and bombs.

escort, an interceptor and a fighter bomber. As a night fighter, radar equipment is slung under the wing in a special nacelle, and it is possible to put the operator in one of the cockpits while the pilot flies the plane from the other. For ground strafing, the craft's 14 machine guns—six in the wing and eight more in a package—adds up to more firepower than any other fighter is able to muster. With externally hung fuel tanks, in addition to its internal capacity, the plane can accompany its "Super Big Friends" almost anywhere, while a special heated-wing installation relieves the pilot of worry over icing conditions on long hops. To qualify as an interceptor, a flush-type "turtle-back" cowling fits over the cockpit on the copilot's side and turns the plane into a single-placer within minutes, while four 1,000-pound bombs can be carried under the 51-foot wing to make the plane measure up as a formidable short-range fighter-bomber.

The double Mustang has a control arrangement similar to that in a side-by-side cabin, with the difference being the distance that separates the two piloting positions. The cockpit on the left side is the one in which the pilot sits, while the copilot occupies the other. The pilot has autopilot, flight, engine and navigational instruments at his position, while only the necessary flight instruments and a lone compass are available in the copilot's cockpit. In both places, however, the man not flying can recline on an adjustable seat and rudder pedals can be disengaged so that he can stretch out with comparative ease.

Power for the XP-82 comes from two Packard in-line engines, each of which are capable of developing about 1,300 hp at 30,000 feet.

Giant AC Generator

In anticipation of large new airplane models, a powerful 400-cycle AC generator has been developed as a primary source of electrical power for aircraft. The generator weighs 80 pounds and produces four times the power of DC generators, developing 30 kw, the equivalent of a 40-hp engine.

An important combat feature of the new generator is a three-to-one safety factor which guarantees power when wires are cut or damaged by enemy fire. Having three lead wires to its motors, the generator will operate at 80 percent maximum power when one lead is shot away and will continue to produce 50 percent of its potential with two leads gone.

The equipment was developed by General Electric and Westinghouse engineers to specifications set up by ATSC's Equipment Laboratory.

what's wrong with this picture?

Here's a chance to air your views on the proper care and maintenance of oxygen cylinders, using Handbook No. 03-50C-3 for additional pressure. If it will make you breathe any easier, we can reveal that there are at least six mistakes that you can huff and puff about—but before you follow your nose to Page 43 and switch over to the answers, try to locate a few more leaks that have to be plugged. Lending atmosphere to the scene are Cpl. Sheldon Kaufman, Cpl. Charles Stutelberg and Pvt. Jim Smith—all of Wright Field's Aero Med Laboratory.

High-Speed Parachute

A German parachute that was issued to pilots flying the ME-262 jet-propelled fighter is being tested at Wright Field to determine if any special features have been incorporated for lessening the shock of openings at high speeds.

The chute canopy is encased in a "stocking" cover and consists of 288 flat cloth ribbons, each about two inches wide, that join at the apex. It is packed in an ordinary seat-type canvas knapsack carrier and has a one-point, quick-release harness buckle. There are 12 main shroud lines and 126 secondary lines. Each of the lesser lines is fastened to a pair of the ribbons, and when a load is exerted on the canopy, the shroud lines draw together, forcing the ribbons to overlap.

In operation, a small pilot chute which is spring-ejected pulls out the canopy, slips off the "stocking" and leaves the chute free to open. Above a certain speed or air load, the ribbons of the canopy separate, allowing a free flow of air through the openings until speed is reduced enough to permit the load on the shroud lines to close the gaps.

Drop tests now being conducted are expected to furnish information on opening shock, rate of descent and canopy shape during descent.

Radio-Controlled Target Planes

During the training of B-29 gunners, who were being schooled in the operation of the Superfort's remotely controlled turrets, it was not uncommon for someone to yell, "RAT at three o'clock!"

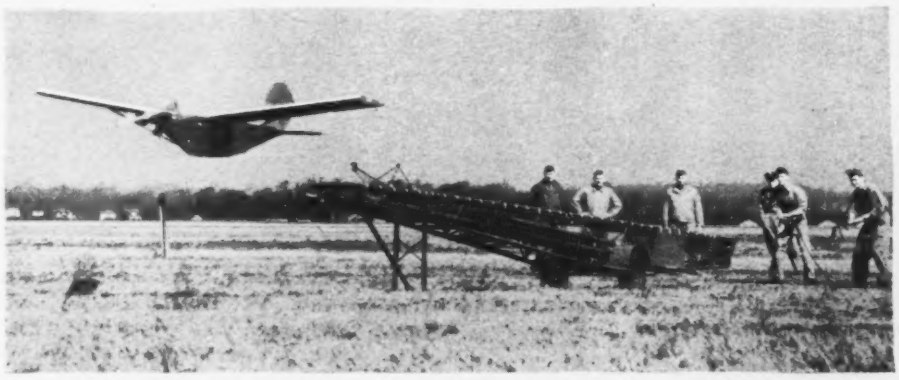
The designation referred to Radio Airplane Target, and meant that one of the AAF's OQ-3 radio-controlled model planes was diving at the bomber to simulate an enemy fighter, and would execute sharp evasive maneuvers until hit, whereupon a parachute would open from the pilotless craft's fuselage and the plane float to the ground.

The RAT is powered by a twin-cylinder, 6-hp engine which turns dual counter-rotating wooden props. Launching is accomplished from a portable steel catapult and landings are effected by the radio-released parachute, with a two-wheel landing gear helping to absorb some of the touch-down shock. The fuselage is almost 9 feet long, wingspan is 12 feet and overall weight is approximately 110 pounds. It is controlled from the ground by a pilot who operates a simple miniature control stick connected to a radio sending set. The plane is tuned in on a special frequency which actuates rudder and elevator movements, and radio control is effective up to a range of about five miles, although the plane must be within telescopic sight of the controller at all times.

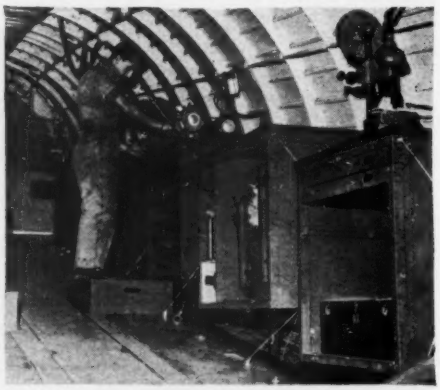
As an outgrowth of the RAT, experiments were conducted with radio control of full-size target planes, resulting in the development of the PQ-8A, a low-wing, fixed gear craft, which could be controlled from a "mother" plane. A speed of 120 mph could be attained by the craft, and altitudes of 15,000 feet could be approached in order to simulate almost any type of attack against ground gunners. Wingspan was 26 feet, 11 inches, weight was in the neighborhood of 1,200 pounds and power came from a 113 hp Franklin engine.

Flying Repair Shop for B-29s

Whether forced down on a barren field deep in China or on an emergency strip on a Pacific atoll, grounded B-29s were quickly serviced and repaired. C-46 transport planes, outfitted as flying repair shops, came winging in to perform the job, and ever since their activation at Patterson Field, Ohio, in 1944, they have more than proved their worth in enabling damaged Superforts to return to base.



Radio controlled target plane being released from catapult arrangement for flight control is achieved from ground by operator who manipulates stick tuned in on the plane's frequency.



Modified as flying repair shop for B-29s, workbenches in the C-46 can be used inside the airplane or removed and set up outside.

The big cargo craft were loaded to capacity with specially built workbenches containing oxygen welding equipment, sheet metal apparatus, lathes, drill presses, air compressors and other items required for the repair of a flak-torn fuselage, wing or engine. These workbenches could be used inside the plane or removed and set up outside. A two-wheeled, rubber-tired trailer, also part of the unit, was used to transport the entire shop in one movement.

Because spare parts and stocks of metal were carried in a belly compartment, there was enough room in the plane's interior for a dozen or more mechanics to work at any one time.

Airborne Laundry

If you happen to be on a dusty Pacific Island, you may soon be able to toss about seven pairs of dirty fatigues into the Army's new airborne laundering unit, come back in an hour and find your uniforms washed and dried.

The laundry unit is packaged in four crates which fit inside a C-47 for transport anywhere the plane can land, and when it is set up for operation it is composed of a washer, an extractor and a hot-air dryer, along with a water pump and suction hose which can draw fresh water from natural sources to supply the washer, oil-burning water and air heaters, and a 110-volt, AC generator unit that runs off a four-cylinder gasoline engine to furnish power. The washer is of the rotary type similar to those used in commercial laundries, and the extractor is a perforated cylindrical container which whirls the wet clothing at high speed to throw out the water, eliminating the need for a wringer. Another tumbler receives hot air from a blower and serves as a dryer.

Nine hundred pounds of wash per day can be turned out by the unit.

Clothes are in the washer about 20 minutes, in the extractor for about 15 minutes and in the dryer for an additional 20.

Headguard for P-80 Pilots

Since high-speed craft like the jet-propelled Shooting Star virtually "chop" their way through rough air, a lightweight plasticized helmet has been designed to protect a pilot's head from striking the low-streamlined bubble

canopies during sharp maneuvers. Looking like a football headgear, the helmet is an oval-shaped shell made of plastic-impregnated cloth which snaps on over a standard flying helmet. It covers the head and the base of the skull, and is so tough that an eight-pound steel ball can be dropped on it from a height of ten feet without leaving a dent. A non-cellular rubber lining is included, which is not affected by changes in pressure at varying altitudes. ☆

WHAT'S WRONG with the picture on Page 41

1. Starting with the man at the left, the mallet being used to straighten out the feed line can cause bending and make the line fail.

2. The greasy rag and the oil can nearby have no place in the picture, since lubricants seeping into oxygen lines can cause a combustible mixture that might easily explode.

3. Then too, the cylinder near his right elbow has its end plug removed, which might permit moisture to get into the oxygen.

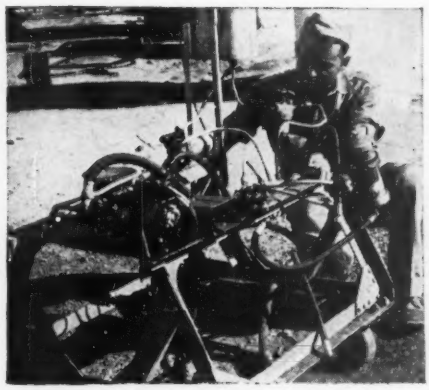
4. Spotlighting the man in the center, cylinders should not be used for seats.

5. That long bar he is using to pry loose one of the containers may dent it and cause other damage.

6. The man at the right using the large wrench to remove the plug on the cylinder is applying excessive torque by using the wrong tool. A special gadget is available for removing the plugs.

on the line

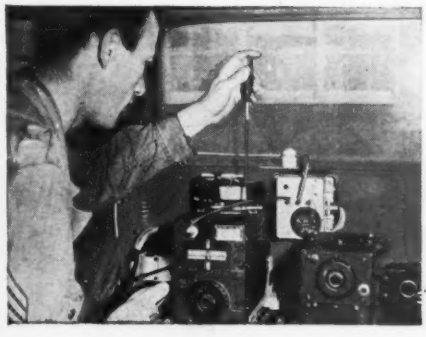
with mechs around the world



At his base in India, S/Sgt. Wade Eggleston, Middletown, Ohio, has built this hydraulic test stand from parts he was able to salvage from wrecked fighters and medium bombers. The apparatus is set on an ordinary prop stand and includes a motor from a P-40 hydraulic pump, a hydraulic tank from a P-51, a selector valve from a B-25 and tubing from the salvage depot.

Realizing that hydraulic test stands for fighter planes are frequently AWOL when needed most, M/Sgt. Victor R. Lawson, Cisco, Texas, went on a reconnaissance mission among salvaged materials and spare parts chests at his 15th Air Force base and came up with his own design—a handy test device that checks hydraulic systems in fighter planes of his squadron.

A two-way radio communications system which enables maintenance trucks to have direct contact with the maintenance shop has been designed by S/Sgt. David A. Baty, Des Moines, Iowa, at the Avon Park, Florida, Army Air Field. The system eliminates necessity of relaying messages through the control tower and saves time and gasoline by cutting down on the number of trips necessary between the flight line and the shops. The receivers and transmitters of the two-way set are pre-tuned to the desired frequency and the controls are locked in that position. The switch box was constructed from scrap metal and spare parts, while the antenna was made out of alloy steel tubing. A safety switch controls the entire mechanism and enables anyone to operate the complete system, without previous instruction, by merely flipping the toggle.



When a drill combining high torque output at slow speed while utilizing an aircraft's 24-volt current was needed at a 5th Bombardment Group base in the Philippines, S/Sgt. Aimsey Reed, Clarkston, Wash. (left) and Sgt. Charles Mosley, Princeton, Ky., (right) found the answer by taking a Du-More motor from a Martin ammo booster removing both sprockets from the motor and installing a chuck on the right end of the shaft.

Gunsight voltage regulators were checked speedily and efficiently at an 8th Air Force depot in England by this K-14 gunsight voltage regulator test panel constructed by Sgt. Jacob H. Graff, Brooklyn, N. Y. The device was operated from a universal test stand or 24-volt aircraft battery, and was precise in checking voltages to conform with T.O. specifications. The panel is made of ¼-inch phenolic sheet, and accessories are standard aircraft parts.

War Goods for War Veterans

BY CAPT. JESSE L. WALDEN
Hq., Army Air Forces

If you are like the majority of AAF personnel, you have seen, and used, many items of Army equipment that have caused you to say, "That's something I'm gonna take home with me."

Thousands of GIs feeling the same way have made definite plans to use surplus property in their own businesses when they return to civilian life. Many propose to utilize the same tools they are using in the Army.

A sergeant, now sweating it out in Italy, plans to convert his tiny ranch in California into headquarters for a radio repair shop. He wants to buy the counterpart of the radio repair equipment he has been using for three years and install enough of it to handle first through third echelon maintenance on a GI truck as a portable radio repair unit.

A former private has applied for steam presses, irons and other machinery needed for a cleaning shop. Voltmeters and hand tools interest another EM proposing to open his own electric motor repair shop. A lieutenant hopes to buy some furniture for his brokerage office in Chicago, while a major wants fixtures for a drugstore.

Another ambitious lieutenant is in the market for Army equipment for use in his night club. One officer plans to convert several six-man huts into laying and brooder houses for his chicken ranch near Fort Worth.

So it goes. A survey by the Army Service Forces indicates a large percentage of servicemen plan to strike out on their own. For these ambitious entrepreneurs, a benevolent government agency is ready to lend a helping hand by aiding discharged GIs to secure surplus property. In the enormous stockpiles of war materiel now becoming available can be found the equipment and supplies to establish a substantial portion of any business imaginable.

Section 16 of the Surplus Property Act of 1944 (Public Law No. 457) states: "The Board (Surplus Property Board) shall prescribe regualtions to effectuate the objectives of this Act to aid veterans to establish and maintain their own small business, professional or agricultural enterprises, by affording veterans suitable preferences to the extent feasible and consistent with the policies of this Act in the acquisition of the types of surplus property useful in such enterprises."

At present the Smaller War Plants Corp. is the buying agent for veterans desiring to acquire surplus property for business purposes. Already hundreds of veterans have bought surplus property directly from the Government to set themselves up and maintain themselves in business. They buy through SWPC, get preference and also arrange for loans or payment terms through SWPC, or they can be certified by SWPC to buy direct from government disposal agencies.

Former Naval Lt. Mike Norton was selected to head the Veterans Coordination Staff within SWPC. Norton not only is a medically discharged veteran of this war, but he is seasoned in government administration as well. A Government man for 12 years, he can talk the language of both the GI and the bureaucrat.

The SWPC plan to aid veterans to own their own shops is amazingly simple. To quote Mike Norton: "It's as simple as ordering from a Montgomery-Ward catalog." Here's the plan:

A serviceman decides exactly what property is required to get his business under way. After working out a program for a business that has a chance to succeed, he applies to the nearest of the 110 SWPC offices where he fills out and files a simple application. The latter is investigated to protect the veteran against inexperience and sharpers as well as to safeguard government funds. If the very reasonable and liberal standards are met, the veteran waits an average of 12 days and is then ready to open his business doors.

Naturally, certain criteria have been established. If property requested is to be used for the purpose of setting up a business, the invested capital of the proposed enterprise cannot exceed $50,000 and the veteran must own at least 50 percent of the stock. The venture must have a reasonable possibility of success. Automotive or similar equipment necessary to employment may also be purchased. A former limitation of $2,500 in purchases has recently been eliminated. If credit is desired, the applicant must not be a known deadbeat or failure.

All sales are under OPA regulations, but in no case will the selling price be greater than the cost to the government, less allowances for depreciation and obsolescence. For example, if you really want a jeep, it will cost you $983 less 15 percent if it is less than one month old. The price is progressively discounted up to 40 percent to three years, and 54 percent off when it is three years old.

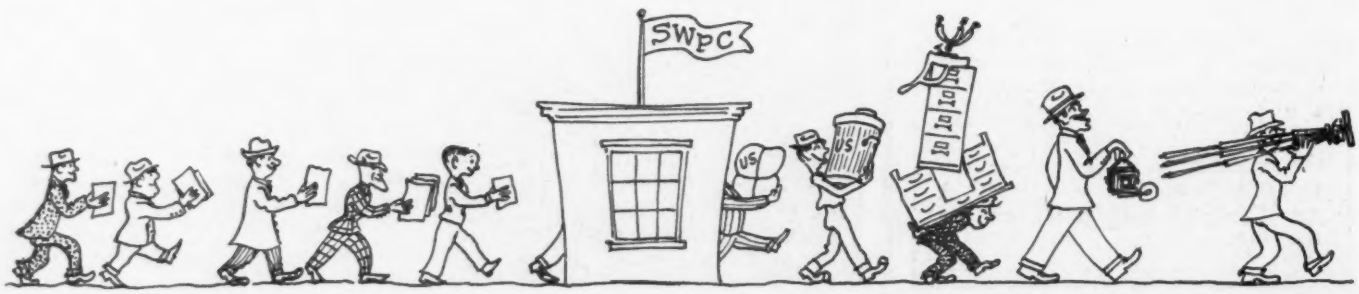
As soon as the business consultant attached to the District SWPC office decides a veteran's chosen venture has a possibility of success, his application is sent through the regional office to a SWPC finder, who makes an immediate search for the property desired. If it can not be found anywhere, the application will be kept on file until the property does become available.

Immediately after the surplus goods are found, notice is sent to the prospective purchaser, giving the location of the merchandise, price and other details, and the veteran is given a chance to inspect the property before making the purchase.

If he decides to buy SWPC exercises its priority and purchases the property and then arranges delivery in any manner desired by the veteran.

If the veteran offers spot cash for his merchandise, he pays the same amount SWPC pays for it, plus shipping costs. If he desires credit he should so signify in his application, and his credit rating is checked by the SWPC Loan Bureau while search for the property is being made. He can also arrange to obtain credit through the disposal agencies.

Credit may be extended for durable goods for a period of five years, and the down payment may be as low as 15 percent. For example, a former sergeant needed only $315 for a $2,500 purchase of radio equipment, the unpaid balance to be paid in equal monthly installments. Maximum



time payments for consumer goods is limited to three years. In either case, the interest rate is 4% on the unpaid balance.

Loans for the purchase of property are not made in cash. The government merely transfers title from the War Department or other owning agency to SWPC, which in turn sells under the installment plan.

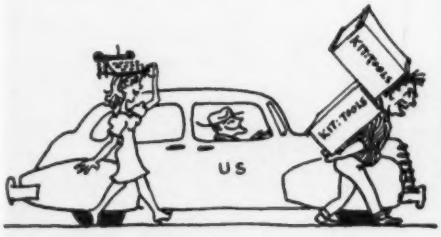
The application for both the purchase and credit is a radical departure from the usual government procedure. If cash is to be paid for the desired property, only 12 simple questions are asked. These questions include name and address of applicant; name and address of proposed enterprise; type and short description of enterprise; when the applicant plans to start operations; if enterprise is already established; size of enterprise, present and anticipated; short resume of training experience or education which the applicant believes assures his success; list of items desired, and, certification of eligibility to purchase. If credit is desired, six additional questions are asked, name and address of applicant's bank; banks to whom he may be indebted; two credit references; three personal references; other persons having a proprietary interest in the firm, and a financial statement of the enterprise if it is already established.

SWPC assistance does not end after the property is delivered. Regional SWPC loan agents may make production loans up to $50,000 without awaiting approval from Washington, or may enter into repurchase agreements with banks up to 80% of loans up to $100,000, where banks participate in the remaining 20% of the loan.

In addition, through the SWPC Technical Advisory Service each District SWPC office is prepared to find the answers to many of the veteran small business man's inevitable problems. The accumulated technical knowledge of many fields is at his disposal. The sources include the information stored in various government agencies, engineering colleges and universities, technical magazines and non-confidential data in industrial laboratories.

Furthermore, the veteran is invited to consult any District office regarding the 45,000 alien patents seized by the government at the beginning of the war, or about new inventions in his chosen field.

Maury Maverick, SWPC chairman, promises every assistance, with top priority long before war goods hit the open market. And don't worry if your point score is low. Uncle Sam promises that his surplus war materiel won't be surplus in quantity until he declares his fighting men surplus too. ☆



AAF QUIZ

Kick off on the AIR FORCE Quiz again, crediting yourself five points for each correct answer. A score of 90 or above is excellent; 75 to 85 good; 60 to 70 not too bad; below 60, well. . . . see Page 47 for the answers.

1. S.A.E. as used in gasoline ratings, stands for
- A. *Sigma Alpha Epsilon*
- B. *Siphon Altitude Experience*
- C. *Society of Automotive Engineers*
- D. *Strength after Explosion*

2. For an AAF pilot to obtain a CAA license upon application he must certify he has flown 10 hours as first pilot in the year preceding
- A. *True* B. *False*

3. A Wind Rose is
- A. *A collection of vanes used in determining wind velocity*
- B. *Another nickname for Tokyo Rose*
- C. *A weather phenomenon, something like the aurora borealis, seen in the South Pacific*
- D. *A diagram showing wind strengths and directions in a given area*

4. BTO means
- A. *Big Time Operator*
- B. *Basic trainer operational*
- C. *Bombing through overcast*
- D. *Bombardment training operations*

5. Who is commander of the AAF forces in Europe?
- A. *General Weyland*
- B. *General Cannon*
- C. *General Vandenberg*
- D. *General Anderson*

6. The Japanese civilian who signed the surrender documents was
- A. *Shegimitsu* B. *Shidehara*
- C. *Togo* D. *Hokkaido*

7. Representatives of how many Allied powers signed the documents aboard the Missouri?
- A. *Five* B. *Nine* C. *Four* D. *Seven*

8. Signing for the United States was
- A. *General MacArthur*
- B. *Admiral Nimitz*
- C. *Admiral Halsey*
- D. *General Wainwright*

9. The first city on which an atomic bomb was dropped was
- A. *Nagasaki* B. *Tokyo*
- C. *Yokohama* D. *Hiroshima*

10. The YB-40 was
- A. *A twin-boomed bomber*
- B. *An AAF version of the Catalina*
- C. *An extremely heavily armed B-17*
- D. *A B-26 with fixed forward firing 37 mm cannon*

11. The XA-38, an experimental attack plane developed but not used tactically in this war, was built around a 75 mm cannon
- A. *True* B. *False*

12. The Republic Seabee is a twin-engine commercial seaplane
- A. *True* B. *False*

13. The Yellow Scorpions were
- A. *Yamashita's special attack corps on Luzon*
- B. *A P-51 outfit that operated in northern China*
- C. *Particularly poisonous insects found on Okinawa*
- D. *A B-25 squadron of the 7th Air Force*

14. Which of these Jap fighters is powered by two engines
- A. *Tojo* B. *Tony* C. *Zeke* D. *Nick*

15. The last air force to use the B-18 in combat was the
- A. *5th* B. *6th* C. *11th* D. *13th*

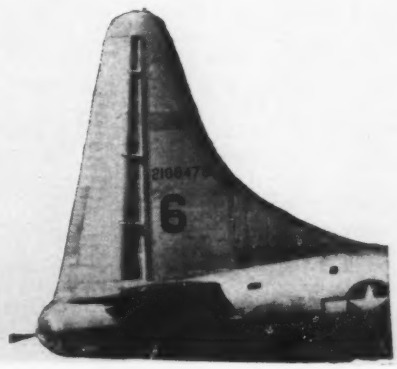
16. In making a cross-wind landing with a P-51, one of the first things to do is to drop the wing slightly into the wind
- A. *True* B. *False*

17. The new C-99, with pusher propellers, will have how many engines?

18. The F-7 is a photo version of the
- A. *B-29* B. *L-5* C. *P-38* D. *B-24*

19. General Spaatz was succeeded as commander of the United States Army Strategic Air Forces in the Pacific by
- A. *Gen. Giles* C. *Gen. Doolittle*
- B. *Gen. LeMay* D. *Gen. Kuter*

20. This is the tail of what airplane?



The Intercom

As a medium for the exchange of ideas, AIR FORCE presents these answers to its Question of the Month. Replies are those of personnel recently returned from combat duty in the areas indicated.

QUESTION: After the war, would you like to revisit the theater in which you were stationed?

Lt. Warren Eastwick, radar observer, New Guinea: "Definitely not. I like the idea of civilization too much to want to go back and visit that place. There are too many bugs and mosquitoes, and not enough of anything else. Matter of fact, there just isn't a thing to see in the whole country. They have towns on the maps, but when you find them they turn out to be nothing but a couple of grass huts. I am positive that I have seen enough of New Guinea — too much, in fact. I am definitely not a customer for one of those See-the-Pacific tours. Once there is too much for me."

Lt. Carrol S. Woods, pilot, Italy: "Yes, I would. I would like very much to see Italy in peacetime when it is back to normal. Italy is a very beautiful country, but I want to look at it when there are no guns or military aircraft around. I was a prisoner of war over there, and I'd like to take another look at the places I passed through while I was in the hands of the enemy. That is true, particularly of Athens. I bailed out over Greece, but you can't see much while dangling and tossing from a parachute. I like the people there and I certainly want to go back again some day."

Lt. Irving Kaufman, Base S-4, Hawaii: "Very much so. I'd like to show my wife the pineapple patch where I was assigned. And I'd like her to see some of the best climate in the whole world. Hawaii is really a great place—very beautiful, even when seen under the disadvantage of war conditions. Some of the beaches on the northern shore are wonderful, and the interior of the island is something to marvel at. Furthermore, I'd like to get a look at some of the airfields I had a hand at building. No, I never saw a grass-skirt dancer all the time I was there. Do they really have them?"

Sgt. Anthony A. Costantino, photographer, Panama: "No, no, a thousand times no. There is nothing to visit. All they have there is a canal and nothing else, and the weather is much too hot for a vacation. I think that 25 months down there is enough for anybody. The only decent-size city is Colon, and even that is too small for anyone accustomed to living in an American city. The people in Panama are wonderful but their country just isn't for me. For my part, I would just as soon do all of my visiting in the United States. When you leave America, you appreciate it."

Cpl. Eugene Marcus, clerk, England: "Positively. England is a great country. It is beautiful almost beyond belief in many places. The best part of England, however, is the people. You have heard stories of their courage and strength, and everything you heard is absolutely true. I'll bet that every soldier who has been there will share my opinion about the English people. I know a lot of fellows didn't like the climate very much but it is just a question of getting accustomed to it. The beautiful countrysides of England just cannot be matched any place in the world. I expect to go back."

Pvt. Edwin Garner, cook, England: "No, I don't want to return to England. I'm tired of it. That climate! Fogs and rain all the time. When we saw those big barrage balloons, we wondered why they didn't cut them loose and just let the place sink. I suppose I got the wrong impression of England, however. Seven of my eight months there were spent in a hospital, and there certainly is nothing cheering about waking up and looking at depressing leaden skies day after day. The people were fine, but for my dough give me the good old United States every day in the week."

RENDEZVOUS

(Continued from Page 3)

provide sufficiently cool air. Most of the crew can manage under such conditions, except the radio operator who has the warmest and most uncomfortable position due to additional heat from voltage regulators, radio equipment and so on.

I have discovered if the radio operator opens the top of the plane chute which is located on the floor near his chair on late model Bell-built B-29s, his uncomfortable condition may be relieved somewhat.

Hope the passing on of this information in AIR FORCE Magazine will aid over-heated radio operators.

T/Sgt. E. W. Dunn
346th Bomb. Group (VH)
c/o General Delivery
Herington, Kan.

Technicians in the Wright Field Aircraft Radio Lab tell us that Sergeant Dunn's idea is excellent. The plane chute to which he refers is a special cache for the airplane's flare chute. It is directly behind the navigator.—Ed.

Double-decker Hangars

Dear Editor:

I read with unparalleled interest your article entitled "Sky Flivvers," (AIR FORCE, September, 1945) which gave the future "airplane driver" a broadside view of what to expect in light planes in the welcome postwar world.

The annual financial investment required to operate a private plane far exceeds the amount of money in the average person's pocket. Why couldn't double-decked hangars with elevators similar to garages be built to increase storage capacity, consequently cutting storage costs practically in half?

A/C Earnest S. Armistead
Tampa Squadron AAFA
Tampa, Fla.

A Winner

Dear Editor:

Would you save me from the intimidation of losing a bet? I say that there is a modified P-39, a two-place job which was intended for use as a transition flight trainer. Remember now—a two-place job (the extra seat being built forward of the regular seat).

Pfc. John I. Mason
Squadron N, Box No. 179
Keesler Field, Miss.

We remember. There is a P-39 modified as a two-place trainer. It is designated PT-39.—Ed.

Answers to "How Sharp Are You"

Photo on Page 2	Questions on Page 33
1. Nine	7. On the beam behind the American officer
2. Four	
3. Left	
4. Two	8. Closed
5. None	9. True
6. Two	10. No

OCCUPATION

(Continued from Page 21)

For those interested in learing the inner secrets of the beauty salon, a cosmetology course is offered at the Ecole Jandeau in Paris. Anyone with musical talent can get two-months' instruction at the world-famous Conservatoire National de Musique in Paris. Air force medical officers who want to tune up for their return to private practice are taking special medical courses at the University of London and the University of Liverpool. Arrangements have been made with British schools for teachers and educators to study the school system and the administrative organization.

The Building Research Station in Watford, England, is offering special courses in architecture, chemistry and engineering as applied to construction and construction materials.

London's Library Association has arranged a refresher course for librarians, while the British Pharmaceutical Society, also in London, has arranged a course that allows students to work in civilian hospitals and pharmacies. Shakespeare can be studied at Stratford-on-Avon. Dramatic activities are offered at London's Central School of Speech Training and Dramatic Arts. Birmingham University has special classes in chemistry and engineering. All phases of architecture are available for study at the London School of Architecture. Some air force men are even working with the Ministry of Public Health and various local government units on projects of municipal architecture and housing, public health administration and city engineering.

Along with the sports and educational programs, plenty of GI and civilian entertainment is constantly on tap. Movies attract about 1,000,000 Army personnel every month. Permanent airfields now being established are equipped with full-size stages so that big shows like "Oklahoma!," "Up in Central Park," and the Radio City Revue will not be handicapped. One AAF outfit has converted a German rifle range into a gigantic indoor theater with dressing rooms and all the trimmings. The emphasis is on large, well-prepared shows that offer real entertainment.

Jive is another big entertainment factor and almost every base has its own orchestra. About 300 bands at various air force bases in the theater are augmented by 14 others which are on continuous tour. The 53 radio stations of the American Forces Network are featuring more and more soldier talent. Air force libraries are stocked with 284,000 books and best sellers are being continually added to the shelves. Librarians report a big increase in readership during the past few months.

But the more that special services provides, the more the men seem to want. Here is a typical list of items requested by an air force station, Germany: 15 radios, 200 basketballs, 150 pairs basketball shoes, 2 gross of ping-pong balls, orchestrations, V-discs, needles, 1 Hill Billy set, 2 bass violins, 1 public address system, 50 athletic supporters, 1 trombone, B-flat. The order was filled promptly. ☆

DEATH MARCH MEDIC

(Continued from Page 13)

over the best part of the barn if their is such a thing as the best part of a barn. They cleaned it out, found straw and spread it out, and laid out the sick. That was our "hospital."

The basic principle of treatment was bed rest. While others stood for hours in cold and rain to get a drink of boiled water or a few potatoes, the sick rested in the straw and whatever rations were available were brought to them. Whenever possible they received extra portions.

For medicines the Germans gave us pittances of important drugs. We had some Red Cross medical parcels which gave us a small supply of bandage, tape, aspirin, lice powder and salves. For hot water-bottles, we heated bricks. For dysentery cases, we made our own charcoal and let the patients chew it and swallow the powder. I had a small supply of sulfa pills which never left my person. These precious pills were doled out only to the most serious cases and those with pneumonia.

Speaking of pneumonias, the technique of listening to a chest was unorthodox since I had no stethoscope. First I would kneel by the patient, expose his chest, scrape off the lice, and then place my ear directly on his chest and listen. After that I would usually remark to the men that if anyone present felt sorry for himself, first let him think of my sad case. After all, at one time I used to have lady patients with chest trouble. This was always good for a laugh and a laugh is good therapy.

In the absence of medications, the sick were dosed freely with pep talks. A sample pep-pill would go like this: "The human body is the toughest device ever built for it is 'fearfully and wonderfully made.' You fellows are young. You are far stronger than you realize. You can take an unbelievable amount of punishment and make a snappy comeback and be as good as ever. Hundreds of men in this column have already done it and you will do it too."

Time will disclose the number of amputations and of deaths. We left our worst sick behind at prison hospitals and never saw them again.

At first the medics did all the work at the barn "hospitals." That was pretty tough on the medics for they marched all day often working during rest periods, and on rest days they walked extra miles to cover sick call for the scattered units of our column. This was improved when airman Bob Merriam volunteered to do all the non-medical work around the hospital. He soon organized a group of helpers headed by Ray Stocker and Shorty Hunzinger. When shovels were available, they dug latrines. They prepared and distributed rations and boiled water. They operated a carrying service from "sick wagon" to "hospital" for those patients with infected feet who could not stand and for those who were too weak to walk. Since many of these fellows also had dysentery, they had to be carried to and from the latrine all night. On several occasions when the Germans could not or would not get us horses to pull the "sick wagon," the non-medics alternated teams of 12 men each to haul the wagon by manpower.

Two other members of the "hospital" staff were the two Sergeants Wagner. Both of these gunners spoke perfect German so they were made the "hospital traders" and they were to secure extra food for the sick. Although we were starving, there was plenty of food in the rural areas we marched through. We had small supplies of coffee, soap, chocolate and cigarettes given to us by the Red Cross and these luxury items were wanted badly by the Germans. The guards were ordered however to shoot anyone trading with German civilians. The trick in black marketing was to trade through a friendly guard or induce him to allow you to contact civilians. The Wagner boys often came back with eggs and bread which they had bartered for coffee and soap. Some frauleins would give anything—and that means anything—for a chocolate bar. All we wanted however was eggs.

On several occasions we received some unexpected help from our flying comrades. The last weeks of the war, Allied planes were frequently attacking the Jerries. Sometimes the strafing attacks would kill horses near us. That was manna from Heaven! Willing gunners cut up those horses fast, and to our hungry columns, no meat ever tasted better than that strafed horse furnished through the courtesy of the "Flying Quartermaster Corps" (P47s, 51s and Hurricanes).

As Allied Forces drew closer, German treatment became better. On May 2, two British sergeants in a recon car reached our column. At this beautiful sight, the Germans began throwing down their arms. One of the sergeants addressed the Germans and us. "For you the war is over," he said This time it was. ☆

Answers to Quiz on Page 45

1. (c) Society of Automotive Engineers
2. (a) True
3. (d) A diagram showing wind strengths and directions in a given area
4. (c) Bombing through overcast
5. (b) General Cannon
6. (a) Shegimitsu
7. (b) Nine — United States, China, the United Kingdom, the Soviet Union, Australia, Canada, France, New Zealand and the Netherlands
8. (b) Nimitz
9. (d) Hiroshima
10. (c) An extremely heavily armed B-17
11. (a) True
12. (b) False. It is a single-engine, pusher-type amphibian
13. (b) A P-51 outfit that operated in northern China
14. (d) Nick
15. (b) 6th
16. (a) True
17. Six
18. (d) B-24
19. (a) General Giles
20. B-32

Seeking Stars

BY LT. EDMOND D. BOLES

AAF Reception Center, Camp Beale, Calif.

ILLUSTRATED BY S/SGT. JOE GREEN

When you scream for more points, remember the guy back of the awards desk is no magician

Time was when ribbons on the chest of a man in khaki signified glory. Ribbons were good for a free drink at any bar, plus a slap on the back and an "I wish I could have been with you." Now with so many men returning from overseas, the fruit salad is sprouting up all over, and the glory just isn't what it used to be.

However, simply because the glory angle is waning, don't think for a minute that all of that chest foliage has lost its value. Never before have ribbons and battle stars been so important. When you see a man getting stoop shouldered from having so many ribbons on his chest and you think he isn't getting all of the glory that he has coming, don't feel sorry for him. That man has medals, medals mean points, and points mean that he will be cashing in the whole works very soon for the increasingly popular civilian attire. Any soldier will trade you all the glory in the world for one more battle star. Number one topic for conversation in the Army today is points. Soldiers talk points, think points and dream points.

I happen to be the awards and decorations officer at the AAF Reception Center, Camp Beale, Calif., and at present I am on the verge of going point mad. Not only do I have my own points to sweat out, but all the other men's points who pass through my station as well. I have had delegated to me the authority to add, subtract, multiply and divide—points. Word has gotten around that I have this almighty power, and as a result, my desk is wet with the tears that are pouring over it daily.

Most squawks are legitimate, and I do my best to see that a man gets everything he has coming to him in the way of awards and decorations. When the war in Europe ended, it would seem that the clerk typists (Military Occupation Specialty 405) in the various organizations, went on a spree and are still incommunicado. At least this is the impression I get when I try to decode some of the records coming back from over there. These men have done their fellow soldiers a grave injustice, since in many cases the individual doesn't know exactly to what he is entitled. It is not uncommon to see a man back from the ETO short three battle stars. The 15 points these three battle stars represent may decide if a man is to become a civilian now or much later. Or 15 points may stop a man from making a long trip to police the Japs. Men back from the Pacific are in even worse straits; many have no stars whatever.

I encountered one extreme case a few days ago in which a sergeant had been dealt a very low blow indeed.

"Sir," he started, "I believe I am short some points on my combat credit."

"How many combat points do you have?" I asked.

"Five, sir," was his answer.

I asked to see his service record and upon examining it carefully I found plenty of major discrepancies. The sergeant had enlisted a few days after Pearl Harbor and had spent 20 months overseas. He had participated in raids for the initial landings in North Africa and had continued to fight throughout the African campaign. He helped soften up Sicily and Salerno. On his last mission he had been shot down, receiving injuries which placed him in an overseas hospital for five months. After a short period in the States he had volunteered for another tour of combat in the ETO. This time he did his fighting out of England. The sergeant participated in the Ardennes campaign, Rhineland and the battle for Central Europe. He had flown a total of 80 combat missions. He held the Distinguished Flying Cross with one Oak Leaf Cluster, the Air Medal with eight Oak Leaf Clusters and the Purple Heart. In a few hours, the sergeant was on his way to separation center on his post. Forty-eight hours later, proudly displaying the discharge emblem, he boarded a bus for his home in central California.

When a man has been shorted battle stars, the system for handing over the accompanying points is fairly simple. From existing records, I learn where the soldier has been, when he was there, and what he did while there. With this information, I check a few now worn charts and find out what went on in his section in the way of battles. I determine if a man is eligible for more battle stars, then have him sign an enlisted man's affidavit or an officer's certification stating that all information is correct. The points are entered on the adjusted service rating card and the man is off for separation center. In no case is a man allowed to sign an affidavit or certification when there may be doubt as to his eligibility. Often a man is so eager for civvies he is willing to sign anything. My desire is to put soldiers in civvies, not in Leavenworth.

Establishing point credit for various medals is somewhat harder. For instance, if a man has been awarded an Air Medal, but he has no orders or record entry to prove it, an affidavit or certification for the award is not enough. A tracer letter must be sent through channels to his former organization asking for more details on the story. If the former outfit is on the ball and answers immediately, the points are entered and the medal is presented.

Not all cases are on the up and up. Sometimes the soldier lets his enthusiasm for points run away with him. A couple of days ago a man came to my desk and demanded that he be given credit for the Battle of the Blue Danube. He had been with a bomb group in Italy and was certain that his outfit had been accorded credit for the battle. I explained patiently that there was no such battle in existence and that if there was such a battle I would be claiming credit for it myself since I too had flown missions out of Italy. Whereupon he proceeded to tell me how we both had been robbed.

Then there was the fellow who came up and calmly asked for six battle stars.

"Why?" I asked.

He seemed surprised, "Because six more stars will give me the necessary points for a discharge."

I thought I would take a look. After all he could be short six stars. Upon looking at his records carefully, I found that all was in order and up to date.

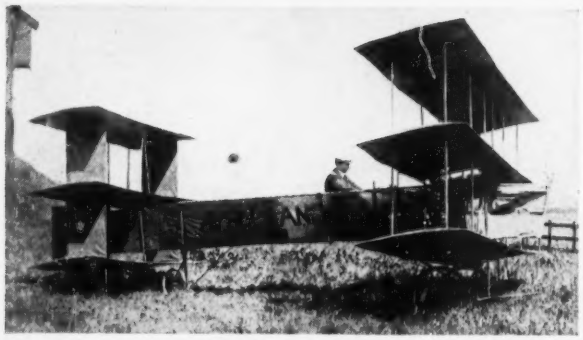
"You're all square, soldier. You have no more stars coming."

"You lieutenants are all alike," he blurted, "never will give a guy a break." He stomped out of the office; I reached for my straitjacket. I do have the authority to give a man what he has coming, but I can't pull points out of a hat when a man has done nothing to deserve them.

One of the questions the men usually ask after breathing the first sigh of relief (a sigh always follows the addition of points) is, "How about you, lieutenant? When are you getting out?"

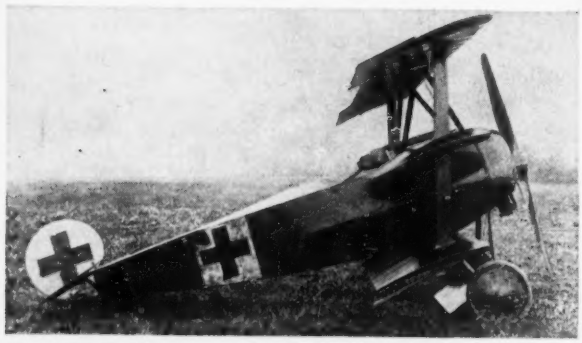
They don't know it but they are touching a sore subject. I always reply, "I need two more points to do the trick." Whereupon they shake their heads sympathetically. One fellow asked me why I didn't award myself another battle star. I informed him that I had exhausted all possibilities. But he has a point. Perhaps I *am* eligible for the Battle of the Blue Danube. I must look into that. ☆

The Album TRIPLANES



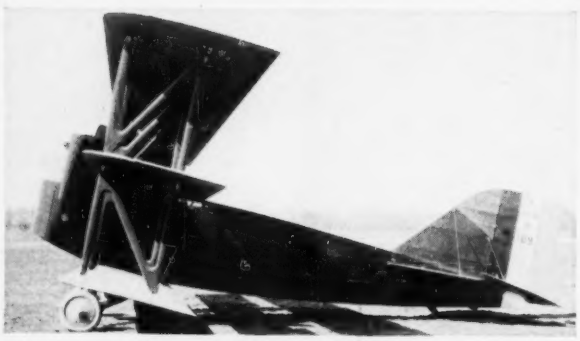
Some time around 1909, the character with the cap actually flew this Avro job which was called, cutely, an Avroplane.

This boxkite was designed by an Englishman named Roe who flew it in Boston in 1910; a biplane he had built crashed.

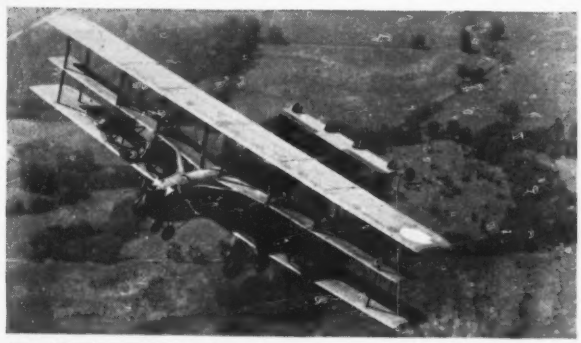


Capt. M. Freiherr von Richthofen, Germany's top ace in the first World War, flew this type of gaily painted Fokker.

In 1918 this streamlined job was the fastest plane in the world. A Curtiss with a Kirkham motor, it would do 162 mph.



This G.A.X. triplane of early twenties appeared to have bumped the end of a hangar. Its two engines turned pusher-type props.



World's biggest airplane in 1923 was Barling Bomber with two pusher and four tractor engines, inboards back to back.

WAR DEPARTMENT
AAF Form No. 54
(Revised 2-18-43)

WAR DEPARTMENT
ARMY AIR FORCES
UNSATISFACTORY REPORT

(See AAF Reg. 15-54 for information on Proper Use of this Form)

TO BE FILLED IN BY STATION	
STATION SERIAL No. 44-326	DATE SUBMITTED 18 Oct 44

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A. S. C. SERIAL No.	REFER TO	CLASS

STATION	ORGANIZATION
375 APO 557 U.S. Army	Station Engineering (467th Serv. Sq.)

SUBJECT OF REPORT	Property Class—Name	Manufacturer	AAF Order or Shipping No.
	01M Wing Assembly Left & Right	No. American	

—Model & AAF Serial No.	ENGINE—Model & AAF Serial No.	UNIT OR ACCESSORY—Type, Model and Serial No.
O-NA 44-14336	V-1650-7 V-324219	

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EXPEDITE

DON'T DO THE JOB HALF WAY!

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When properly filled out, the Unsatisfactory Report enables the AAF to improve equipment, eliminate malfunctions and to initiate more efficient maintenance, distribution and storing methods.

However, an INCOMPLETE UR is as useless as a gun without ammo. When you fill out an Unsatisfactory Report, fill it out COMPLETELY. Every detail is important; nothing is too small to mention. Describe the problem fully, discuss the probable causes and don't pull the punches on your recommendations. The completeness of your report reflects your ability and your interest in the AAF.

If faulty AAF equipment or procedures are discovered—fill out a UR immediately—AND DON'T DO THE JOB HALF WAY!